

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* RUSSELL K. BROVALD,  
BRETT C. ONG, and  
HYUN SOO KIM

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Appeal 2008-2507  
Application 10/448,252  
Technology Center 2800

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Decided: August 5, 2008

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Before CHARLES F. WARREN, CATHERINE Q. TIMM, and  
ROMULO H. DELMENDO, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1-20, 22-35, and 37-53. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

## I. BACKGROUND

The invention relates to a device for coupling a printed circuit board to a computer chassis and its method of use. Claims 1 and 18 are illustrative of the claimed device:

1. A device for coupling a printed circuit board assembly to a computer chassis, comprising:

a base,

at least two posts located on opposite sides of the base, wherein the at least two posts extend above an upper surface of the base, and wherein the at least two posts are configured to couple the device to the computer chassis; and

at least one prong extending upward from the base, wherein the at least one prong is configured to couple the device to the printed circuit board assembly.

18. A device for coupling a printed circuit board assembly to a computer chassis, comprising:

a base, wherein the base comprises one or more feet configured to slidably couple to a groove in the computer chassis;

at least two posts located on opposite sides of the base, wherein the at least two posts removably couple the device to the computer chassis; and

at least one prong extending upward from the base, wherein the at least one prong removably couples the device to the printed circuit board assembly.

On review are the Examiner's rejections of: (1) claims 1-17 under 35 U.S.C. § 103(a) as unpatentable over Scholder (US 5,452,184 issued Sep. 19, 1995 to Scholder et al.) in view of Chen '041 (US 6,625,041 B1 issued

Sep. 23, 2003 to Chen); and (2) claims 18-20, 22-35, and 37-53 under 35 U.S.C. § 103(a) as unpatentable over Scholder in view of Chen '540 (US 6,424,540 B1 issued Jul. 23, 2002 to Chen et al.).

## II. DISCUSSION

### *The Rejection of Claims 1-17*

With respect to the Examiner's rejection of claims 1-17 over Scholder in view of Chen '041, the issue on appeal arising from the contentions of Appellants and the Examiner is: have Appellants shown that the evidence fails to support the Examiner's conclusion that it would have been obvious to extend the posts of Scholder's fastener above the base in the manner taught by Chen '041 for the purpose of preventing transverse movement of a device mounted on the fastener?

We answer this question in the affirmative.

The evidence of record supports the following Findings of Facts (FF):

1. Scholder describes a fastener for coupling a printed circuit board assembly to a computer chassis (Scholder, col. 1, ll. 10-18).
2. The fastener of Scholder has a prong (hook 16 comprising arm member 44 and catch member 46) extending upward from the base (body portion 12) (Scholder, col. 4, ll. 9-12). Figure 4 shows fastener 10 with the hook 16 extending upward.

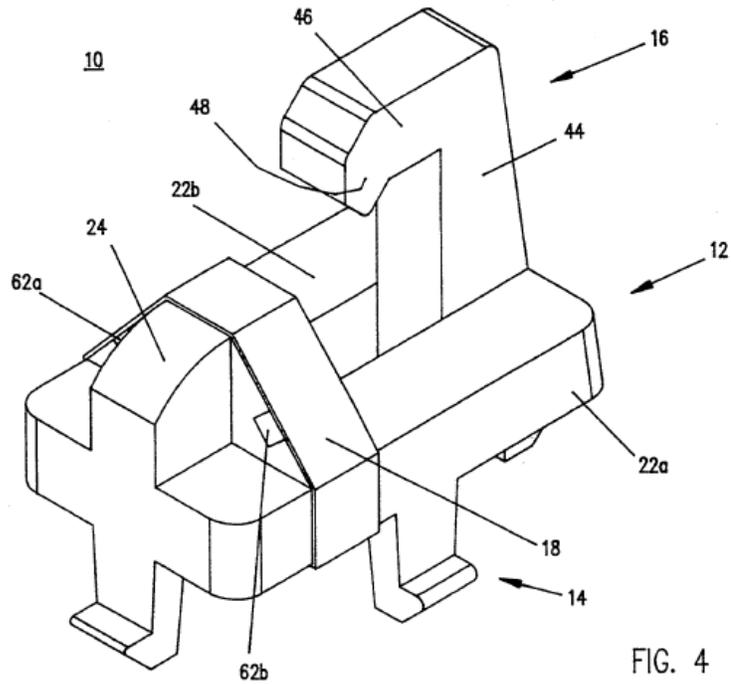
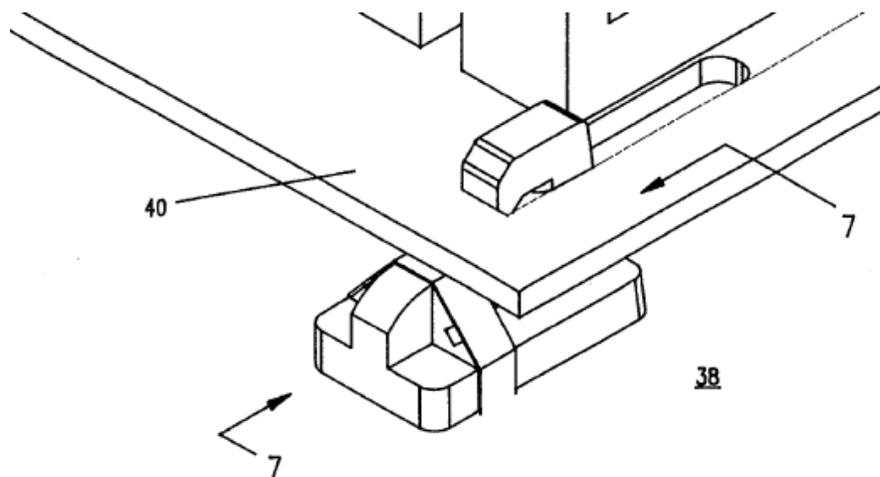


FIG. 4

Figure 4 of Scholder is reproduced above.

3. The prong of Scholder functions to hold the device to be coupled, i.e., the printed circuit board 40, by engaging a slot in the printed circuit board (Scholder, col. 4, ll. 12-17 and ll. 47-49). Figure 6 shows the coupling of the slot within board 40 to the prong as shown below.



A portion of Figure 6 is reproduced above.

- Scholder's fastener has four leg members (14) extending downwardly from the base which are pressed into holes 36 in the chassis to couple the fastener to the chassis (Scholder, col. 3, l. 51 to col. 4, l. 8). Figure 5 shows the fastener 10 with foot members 32 of the leg portions 14 aligned with the holes 36 in the chassis.

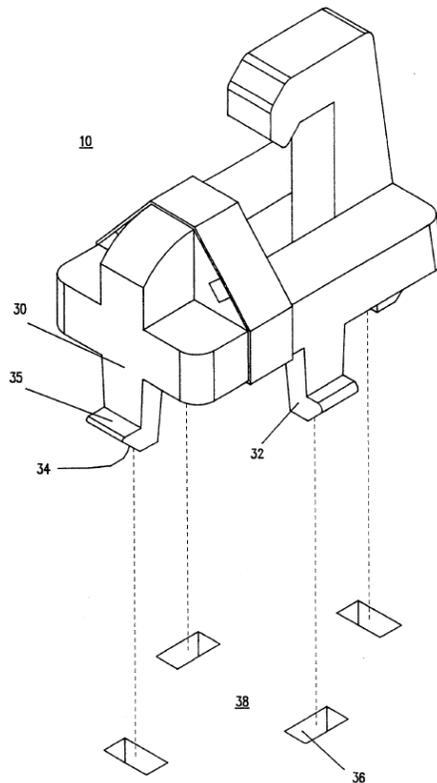


Figure 5 of Scholder is reproduced above.

- Scholder's fastener does not have posts extending above an upper surface of the base.
- Chen '041 describes an expansion card fixture for coupling an expansion card to a printed circuit board.
- As shown in Chen's Figure 2(a), the fixture of Chen '041 includes two blocking plates 23 extending upward from plate 21 for holding the device to be coupled (expansion card), and fixing plugs 25

extending from the bottom of the plate 22 for securing the fixture to the substrate (printed circuit board).

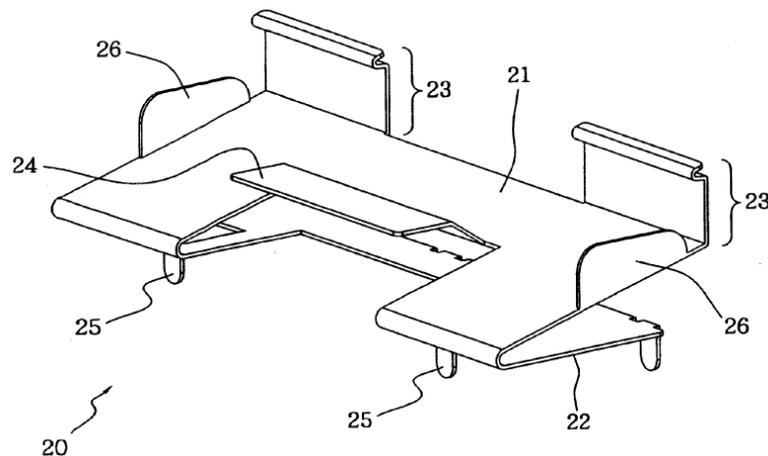
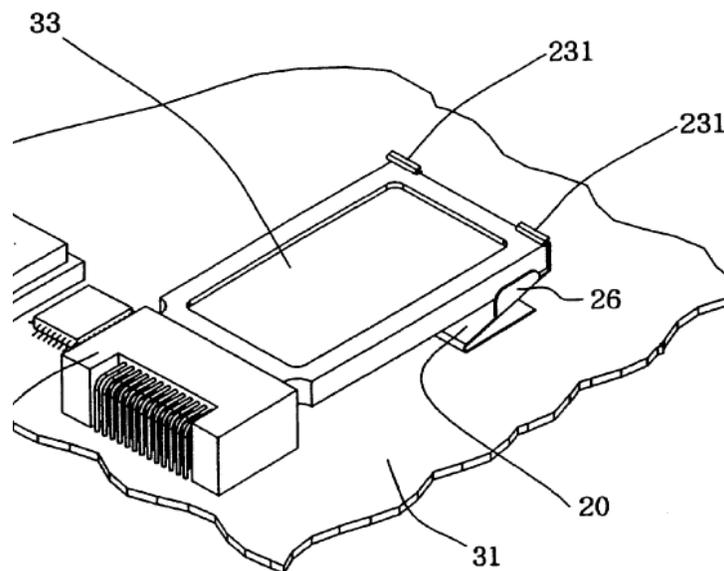


Figure 2(a) of Chen '041 is reproduced above.

8. The blocking plates clamp one end of the card to prevent longitudinal and vertical movement of the card.
9. Figure 3 of Chen '041 shows the fixture 20 coupling expansion card 33 to printed circuit board 31 with the top edge 231 of the blocking plates shown above the end of the expansion card 33.



A portion of Figure 3 of Chen '041 is reproduced above.

10. The blocking plates 23 of Chen '041 perform a function similar to the prong of Scholder in that the blocking plates hold the device to be coupled to the substrate.
11. The fixing plugs 25 of Chen '041 perform a function similar to the legs 14 of Scholder in that they facilitate attachment of the fixture to the substrate.
12. The blocking plates 23 of Chen '041 do not attach the fixture to the substrate, the function of the legs 14 of Scholder.

“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, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *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.”).

To establish a prima facie case of obviousness based on a combination of elements taught by the prior art, the examiner must articulate a rational reason supporting the legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006).

The Examiner finds, and we agree, that Scholder does not have posts extending above an upper surface of the base as required by the claims (FF 5). In order to meet the post limitation of the claim, the Examiner relies upon the blocking plates 23 of Chen '041 as providing evidence that it would have been obvious to one of ordinary skill in the art to extend the legs 14 of Scholder upward from the base (Ans. 3-4). According to the Examiner, it would have been obvious to so extend the legs 14 to prevent transverse movement of the device mounted in the fixture (Ans. 4).

However, the reasoning is flawed: the blocking plates 23 of Chen '041 serve a different function than the legs 14 of Scholder (FF 1, 3-4, 6-9, 12). The blocking plates 23 of Chen '041's fixture serve to hold the device to be coupled (the expansion card) while the legs 14 of Scholder's fixture serve to anchor the fixture to the substrate (the computer chassis) (FF 10-11). In fact, the function of the legs 14 of Scholder is more akin to the function of the fixing plugs 25 of Chen '041 (FF 11). Like the legs 14 of Scholder, the fixing plugs 25 of Chen '041 serve to anchor the fixture onto the substrate (FF 11). There is no suggestion of extending upwards the structures that anchor the fixture to the substrate. The Examiner has failed to provide sufficient evidence and a reasonable rationale for extending the legs of Scholder upward from the base of Scholder's fixture.

Because Appellants have shown that the evidence fails to support the Examiner's conclusion that it would have been obvious "to have arranged the posts to extend above the base in the manner as taught by Chen in the device as taught by Scholder for the purpose of preventing transverse movement of a device that is mounted thereon, we do not sustain the rejection of claims 1-17 over Scholder in view of Chen '041.

*The Rejection of claims 18-20, 22-35, and 37-53*

The Examiner rejects claims 18-20, 22-35, and 37-53 as obvious over Scholder in view of Chen '540. Appellants present arguments under separate headings for various claims. Moreover, the arguments and issues for some claims discussed under a single heading are somewhat different. To the extent the arguments are sufficiently specific to constitute a separate argument we consider the claims separately. Otherwise, the claims stand or fall with the claim from which it depends.

*Claim 18*

With regard to claim 18, three issues arise: (1) have Appellants demonstrated that the Examiner reversibly erred in interpreting the claim language “one or more feet configured to slidably couple to a groove in the computer chassis;” (2) does claim 18 require a “groove” be affirmatively present in the claimed structure; and (3) have Appellants shown that the Examiner reversibly erred in finding that feet elements 66 and 68 of Chen '540 are feet having the structure required by claim 18?

The first two issues are issues of claim interpretation. To decide the issues of claim interpretation, we rely upon the following additional Findings of Fact (FF):

13. Claim 18 is directed to a device with a base having one or more feet, at least two posts, and at least one prong (claim 18).
14. Appellants' drawings depict device 100 with feet 110. According to page 5, lines 13-16 of the Specification, feet 110 may extend from the bottom of the base 102, and, in certain embodiments, feet 110 may be

protrusions extending from the bottom of the base 102 (Spec. 4:2-6; 5:13-16; Figs. 1-4)

15. Claim 18 requires that the “one or more feet” be “configured to slidably couple to a groove in the computer chassis.” (Claim 18).

16. The computer chassis is not part of the claimed “device.”

Because claim interpretation normally controls the rest of the decision making process, every analysis must begin with the key legal question: what is the invention claimed? *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1567-68 (Fed. Cir. 1987). During examination, “claims . . . are to be given their broadest reasonable interpretation consistent with the specification, and . . . claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art.” *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). “A machine is a concrete thing, consisting of parts, or of certain devices and combination of devices.” *See Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863) (defining “machine”). Therefore, the patentability of an apparatus claim depends on the claimed structure, not on the use or purpose of that structure, *Catalina Mktg. Int’l v. Coolsavings.com*, 289 F.3d 801, 809, (Fed. Cir. 2002), or the function or result of that structure. *In re Danly*, 263 F.2d 844, 848 (CCPA 1959); *In re Gardiner*, 171 F.2d 313, 315-16 (CCPA 1948). If the prior art structure possesses all the claimed characteristics including the capability of performing the claimed function, then there is a prima facie case of unpatentability. *In re Ludtke*, 441 F.2d 660, 663-64 (CCPA 1971).

Claim 18 is directed to the coupling device which Appellants depict as device 100 in their figures (FF 13-14). The computer chassis is not part of

this device but is merely the substrate to which the device can be fastened (FF 16). The language “configured to slidably couple to a groove in the computer chassis” (FF 15) limits the structure of the claimed device to the extent that the prior art device must be configured so it is capable of performing the claimed coupling function. Moreover, as the “groove” language merely informs the functionality, we cannot say that the claim requires the presence of a groove as a structure within the claimed device.

We determine that Appellants have not demonstrated that the Examiner reversibly erred in interpreting claim 18.

To decide the issue of whether Appellants have demonstrated that the Examiner reversibly erred in finding that feet elements of 66 and 68 of Chen ‘540 are capable of slidably coupling as claimed, we add the following additional Findings of Fact:

17. Chen ‘540 describes a ledge 16 with feet (foot 66 and tache 68) extending from the bottom of second body 56 for engaging the computer chassis (cage 12) (Chen ‘540, col. 2, ll. 61-66). Figure 5 shows ledge 16 as follows:

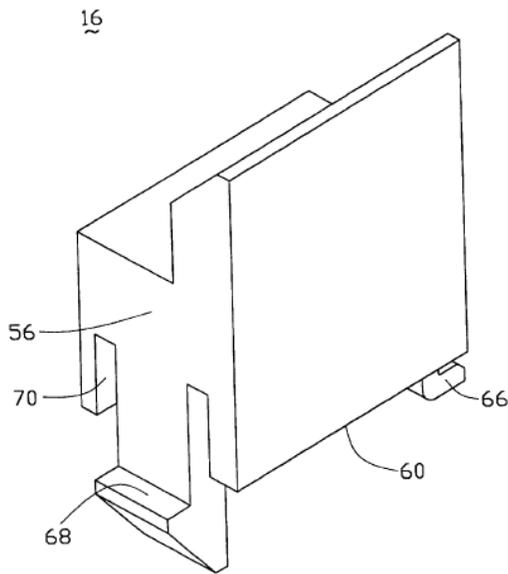


Figure 5 of Chen '540 is reproduced above.

18. The feet 66, 68 of Chen '540 have portions extending outwardly to each side of the device that would be capable of sliding in grooves (Fig. 5).

Appellants have not convinced us that the Examiner reversibly erred in finding that feet 66 and 68 would be capable of sliding into grooves. The feet 66, 68 of Chen '540 have portions extending outward that could fit into grooves as shown in Figure 5 (FF 17-18). Appellants' argument that there is no suggestion or motivation for the combination because the elements 66, 68 of Chen '540 are not configured to "slidably couple to a groove" (Br. 13-14) is unpersuasive for the reasons above.

Appellants rely upon the arguments they present for claim 18 in disputing the rejection of claims 19, 20, 23, and 25-31. Because Appellants add no additional arguments specifically directed to the rejection as applied against these claims, we group these claims with claim 18.

We sustain the rejection of claims 18-20, 23, and 25-31 as obvious over Scholder in view of Chen '540.

*Claim 22 and 24*

With regard to claims 22 and 24, Appellants contend that “Scholder does not appear to teach or suggest “at least two notches in an opening in the chassis.” (Br. 15-16). However, claims 22 and 24 are dependent on claim 18 and are, likewise, directed to the coupling device alone and not to an assembly including the computer chassis. The issue is whether Scholder describes posts capable of being configured to perform the claimed function of coupling with notches. We agree with the Examiner that the posts of Scholder (legs 14) are capable of coupling with notches as claimed. The legs extend in a way that makes them capable of so coupling (FF 4).

We sustain the rejection of claims 22 and 24 over Scholder in view of Chen '540.

*Claims 32 and 48*

Claims 32 and 48 stand on different footing than claim 18. Claim 32 is directed to a system including the computer chassis as well as the device. Claim 48 is directed to a method for coupling. Both these claims affirmatively require the presence of a groove. The groove must be in a wall of an opening within the computer chassis. The Examiner equates this groove to the holes 36 within the chassis of Scholder. We cannot agree that the holes 36 are grooves within the meaning of the claims. The following Findings of Facts support our conclusion:

19. The claims require a groove in a *wall* of the opening (Claims 32 and 48).

20. Appellants' Specification distinguishes between an opening (opening 122) and the wall of an opening (Spec. 5:6-8; Fig. 5).

21. The groove, as disclosed in the Specification, is formed (e.g. stamped) as part of the wall (Spec. 5:7-8).

Holes 36 of Scholder are openings within the meaning of the claims (FF 4), but the claims require a groove in a wall of the opening (FF 19). The groove in the wall is another structure in addition to the opening (FF 20-21). The Examiner provides no evidence that Scholder provides a groove in the wall of openings 36.

Because all of claims 32-35 and 37-53 require the presence of a groove, we determine that Appellants have demonstrated that the Examiner reversibly erred with respect to these claims. We, therefore, do not sustain the rejection of these claims over Scholder in view of Chen '540.

### III. CONCLUSION

In summary, we sustain the rejection of claims 18-20 and 22-31 as obvious over Scholder in view of Chen '540, but we do not sustain the rejection of claims 1-17 over Scholder in view of Chen '041, nor the rejection of claims 32-35 and 37-53 over Scholder in view of Chen '540.

### IV. DECISION

The decision of the Examiner is affirmed-in-part.

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V. TIME PERIOD FOR RESPONSE

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

AFFIRMED-IN-PART

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