

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

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RUSSELL J. LEONARD and MICHAEL J. GARDNER

Appeal No. 2001-0110
Application 08/866,395

ON BRIEF

Before JERRY SMITH, FLEMING, and BLANKENSHIP, **Administrative Patent Judges.**

FLEMING, **Administrative Patent Judge.**

DECISION ON APPEAL

This is a decision on appeal from the final rejection of

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This invention relates to an electrical connector having ESD and EMI protection. On page 6 of Appellants' specification, Appellants disclose that figure 3 shows a shielded electrical connector, which includes a dielectric housing 24. The dielectric housing has a forward mating end 26 and a rearward end 28. On page 7 of the specification, Appellants disclose that the shielded electrical connector has a front ESD shield 58. Appellants disclose that the front ESD shield 58 is about the exterior of the forward mating end 26 of the dielectric housing. We note that figure 3 shows that the front ESD shield 58 is about the exterior of a substantial portion of the forward mating end 26. On pages 8 and 9 of the specification, Appellants disclose that the front ESD shield 58 which is positioned about the exterior of at least a substantial portion of forward mating end 26 operates to dissipate electrostatic discharges from the mating plug connector 16 as well as any electrical discharges from the power terminals of the plug connector. Appellants further disclose that the front ESD shield will also dissipate any

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Independent claims 1 and 23 are reproduced as follows

1. A shielded electrical connector, comprising:

a dielectric housing having a forward mating end and a rearward end;

a front ESD shield about the exterior of at least a substantial portion of the forward mating end of the dielectric housing;

a rear EMI shield about the exterior of at least a substantial portion of the rearward end of the dielectric housing; and

wherein the front ESD shield is electrically isolated from the rear EMI shield by an outwardly projecting portion of the dielectric housing physically separating the shields.

23. A shielded electrical connector assembly, comprising:

a receptacle connector including a dielectric housing having a forward mating end and a shield about the exterior of at least a portion of the forward mating end of the dielectric housing;

a plug connector including a dielectric housing having a forward mating end insertable into the forward mating end of the housing of the receptacle connector, and a peripheral metal shield about the exterior of at least a portion of the dielectric housing of the plug connector; and

complementary interengaging latch means between the peripheral metal shield of the plug connector and the dielectric housing of the receptacle connector isolating the peripheral metal shield of the plug connector from the shield at the forward mating end of the receptacle connector.

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REFERENCES

The references relied on by the Examiner are as follows:

Dixon et al. (Dixon)	4,894,026	Jan. 16, 1990
Shibano	5,035,652	Jul. 30, 1991
Kawai et al. (Kawai)	4,983,127	Jan. 8, 1991
Yagi et al. (Yagi)	5,562,497	Oct. 8, 1996

REJECTIONS AT ISSUE

Claims 1, 2, 4 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dixon in view of Kawai.

Claims 3 and 6 through 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dixon in view of Kawai and further in view of Shibano.

Claims 11 and 15 through 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dixon in view of Kawai and further in view of Yagi.

Claims 19 through 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Dixon in view of Kawai and further in view of Yagi and Shibano.

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Rather than repeat the arguments of Appellants or Examiner, we make reference to the briefs¹ and the answer for the respective details thereof.

OPINION

After a careful review, we do not agree with the Examiner that claims 1 through 11 and 15 through 22 are properly rejected under 35 U.S.C. § 103.

On page 3 of the final rejection, the Examiner agrees that the front shield of the Dixon connector does not extend about a substantial portion of the forward mating end of the housing as recited in Appellants' claim 1. The Examiner points to Kawai for a front shield extending about a substantial portion of the forward mating end of the housing. The Examiner then states that it would have been obvious to one of ordinary skill in the art that the Dixon front shield could be enlarged slightly as taught by Kawai, to extend about a substantial portion of the forward mating end. The Examiner states that such a modification might be made to enhance the EMI shielding qualities of the shield. In

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regard to the other independent claim, claim 11, the Examiner states on page 5 of the final rejection that the Examiner is relying on the same reasoning as set forth in claim 1.

On pages 14 through 16 of the brief, Appellants argue that there is no reason to modify the front shield of Dixon with the teaching of Kawai. Appellants point out on page 16 of the appeal brief that the primary purpose for the forward external shield recited in representative claims 1 and 11 is to provide structure to prevent electrostatic discharge (ESD) from damaging the connector and its associated circuitry. Appellants argue on page 2 of the reply brief that one of the problems that Dixon sought to solve was to prevent the EMI shield to act as an antenna. Appellants point to column 3, lines 33-44. Appellants argue that by suggesting that the external forward shield of Kawai can simply be added to the internal shield of Dixon, the Examiner is adding additional structure at the external forward face of the Dixon connector that would act as an antenna to radiate, rather than suppress, EMI. Appellants argue that the modification

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In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. **Oetiker**, 977, F.2d at 1445, 24 USPQ at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and arguments." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must

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In re Lee, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

We find that the Examiner has failed to present a **prima facie** case of obviousness. In particular, the Examiner has not provided us any objective evidence as to how one of ordinary skill in the art would have modified the Dixon internal shield 26. In column 6, lines 32 through 39, Dixon teaches that the housing 22 is constructed to receive a generally annular conductive internal shield 26 which is dimensioned to substantially surround the pin reserving contact portion of terminals 24 and provide appropriate EMI shielding at the interface between the terminal 24 of the miniature DIN connector 20 and the corresponding pin terminals of a mateable DIN plug. In column 6, lines 39 through 42, Dixon teaches that the annular internal shield 26 is provided with a ground contact 28 which permits the internal shield 26 to be grounded to a circuit board on which the subject DIN connector 20 is mountable.

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the forward mating end of the dielectric housing. Furthermore, we fail to find anything in either Dixon or Kawai that would have suggested it is beneficial to modify the Dixon internal shield 26 to enhance the EMI shielding qualities. In fact, Dixon teaches that the most effective EMI suppression can be attained by providing a direct connection between the external shield 32 and the shield of a DIN connector plug which is mated with the miniature circular DIN connector 20. See Dixon, column 10, lines 47 through 52.

In view of the foregoing, we will not sustain the rejection of claims 1, 2, 4 and 5 under 35 U.S.C. § 103 as being unpatentable over Dixon in view of Kawai. Furthermore we note that the Examiner relies on the same reasoning in the rejection of claim 11 as being unpatentable over Dixon in view of Kawai in view of Yagi. Therefore we will not sustain the rejection of claim 11 and dependent claims 15 through 18 for the same reasons as above. Furthermore for the rejection of claims 3 and 6 through 10 as being unpatentable over Dixon in view of Kawai and further in

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unpatentable over Dixon in view of Kawai and further in view of Yagi and Shibano, we note that the Examiner also relies on the same reasoning as discussed above. Therefore we will not sustain these rejections as well. In view of the foregoing, we will not sustain the Examiner's decision rejecting, claims 1 through 11 and 15 through 22.

REVERSED

JERRY SMITH)	
Administrative Patent Judge)	
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)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
)	
HOWARD B. BLANKENSHIP)	
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