

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

*Ex parte* GREGORY PHILLIP RUHLANDER

---

Appeal 2008-2864  
Application 10/159,755  
Technology Center 3600

---

Decided: January 14, 2009

---

*Before:* JENNIFER D. BAHR, MICHAEL W. O'NEILL, and  
STEFAN STAICOVICI, *Administrative Patent Judges.*

BAHR, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Gregory Phillip Ruhlander (Appellant) appeals under 35 U.S.C. § 134 from the Examiner's decision rejecting claims 1-6, 8, 9, and 13. The Examiner has withdrawn claims 7 and 14-17 from consideration and objected to claims 10-12 as depending from a rejected claim but otherwise

being allowable. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

*The Invention*

Appellant's invention is directed to terminal assemblies, and fittings for terminal assemblies, of motion-transmitting cable assemblies.

Specification 1, ¶ 1. Claims 1, 8, and 13, reproduced below, are further illustrative of the claimed invention.

1. A fitting for a terminal sub-assembly, adapted to receive a connector pin, comprising:

a generally annular isolator having a generally central bore defining a connector pin socket adapted to receive a connector pin, and a reverse clip cap socket; and

a reverse clip cap configured to be received substantially concentrically by the reverse clip cap socket of the isolator and defining a connector pin end socket configured to engage a connector pin, and having a deflectable wall with a configuration for securing a connector pin to be received into the connector pin socket of the isolator,

wherein the reverse clip cap and isolator are operative to interlock when the fitting is mated with a connector pin.

8. A terminal sub-assembly, adapted to be mounted on a connector pin, comprising:

a housing defining a laterally extending isolator socket,

a generally annular isolator configured to be received substantially concentrically by the isolator socket of the housing and having a generally central bore defining a connector pin

socket, adapted to receive a connector pin, and a reverse clip cap socket; and

a reverse clip cap configured to be received substantially concentrically by the reverse clip cap socket of the isolator and defining a connector pin end socket configured to engage a connector pin, and having a deflectable wall with a configuration for securing a connector pin to be received into the connector pin socket of the isolator, that in assembly with the isolator is substantially coaxial with the connector pin socket,

wherein the reverse clip cap and isolator are designed to interlock with one another when the terminal sub-assembly is mated with a connector pin so as to prevent extraction of the connector pin from the terminal sub-assembly.

13. An assembled terminal sub-assembly adapted to mate with a connector pin comprising:

a housing defining a laterally extending isolator socket;

a generally annular isolator seated substantially concentrically in the isolator socket of the housing and having a generally central bore defining a connector pin socket, adapted to receive a connector pin, and a reverse clip cap socket; and

a reverse clip cap seated substantially concentrically in the reverse clip cap socket of the isolator and defining a connector pin end socket adapted to engage a connector pin, and having a deflectable wall with a configuration for securing a connector pin received into the connector pin socket of the isolator, that is substantially coaxial with the connector pin socket,

wherein the reverse clip cap and isolator have corresponding configurations such that when a connector pin is inserted into the connector pin end socket of the reverse clip cap the deflectable wall is pressed against the central bore of the isolator thereby engaging the corresponding configuration interlocking the reverse clip cap and isolator and securing the connector pin.

### *The Rejections*

Appellant seeks review of the Examiner's rejections of claims 1-3, 5, and 6 under 35 U.S.C. § 102(b) as being anticipated by Corcoran (US 2,784,987, issued March 12, 1957); claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Corcoran; and claims 8, 9, and 13 under 35 U.S.C. § 102(b) as being anticipated by Bung (US 5,265,495, issued November 30, 1993).

### SUMMARY OF DECISION

We AFFIRM-IN-PART.

### ISSUES

The first issue presented to us is whether Appellant demonstrates the Examiner erred in finding that Corcoran's sleeve 41 is an "isolator" as called for in claims 1-6. This issue turns in part on the meaning that the claim term "isolator" would have to a person of ordinary skill in the field of Appellant's invention. Appellant urges that an "isolator," as that term is used in the present application and in the relevant art, must be made of suitable material and configured and positioned suitably to perform the function of an isolator, that is, to absorb vibration. Appeal Br. 13. The Examiner, on the

other hand, asserts that an “isolator,” given its broadest reasonable interpretation, is a structure which isolates, or separates, other components from each other or from the environment. Answer 8.

Appellant argues that the Examiner erred in rejecting claims 8 and 9 as being anticipated by Bung because:

- (1) Bung’s socket member 24 cannot satisfy the requirement for a “reverse clip cap” because it cannot be inserted into the Bung device from the side opposite a connector pin. Appeal Br. 18.
- (2) Bung’s second socket member 26 does not define a connector pin socket. Reply Br. 3.
- (3) Bung fails to disclose that the connector pin is prevented from extraction from the terminal sub-assembly when the reverse clip cap and isolator are interlocked with one another. *Id.*

Thus, a second issue in this appeal is whether any of the above three arguments demonstrates error in the Examiner’s rejection of claims 8 and 9.

A third issue before us is whether Appellant’s argument that Bung’s second socket member 26 does not define a connector pin socket demonstrates error in the Examiner’s rejection of claim 13. Reply Br. 4.

#### FACTS PERTINENT TO THE ISSUES

1. Appellant’s invention is directed to terminal assemblies, and fittings for terminal assemblies, of motion-transmitting cable assemblies.  
Specification 1, ¶ 1.
2. Appellant’s Specification discusses traditional isolators within Appellant’s field of invention as follows:

Traditionally, the problem of lash is mitigated by the use of an isolator at the interconnection between the pin and the terminal sub-assembly, designed to absorb vibration. The problem with traditional isolators is that by their very nature they must be made of a softer material that has significant give or resiliency to absorb the vibration and as a result suffer from increased wear and breakdown in areas where [sic: where] the force or load is concentrated, i.e. where the pin contacts the isolator.

Specification 2, ¶ 4.

3. Bung's invention relates to motion-transmitting cable assemblies and, more particularly, to core element terminals for interconnecting a core element and a control element. Bung, col. 1, ll. 6-10. Bung's invention, therefore, is in Appellant's field of invention.
4. Bung explains, in the background of the invention, that ideally, the isolator will absorb all of the vibration from the control member so that no vibration travels along the core element to the gear shifter. Bung, col. 1, ll. 19-22. Bung further characterizes the terminal socket member disclosed in US 4,581,953 to Watson as "soft enough to serve as an isolator." Bung, col. 1, ll. 29-31.
5. On the basis of Facts 1-4 above, we find that a person of ordinary skill in Appellant's field of invention, namely, terminals for motion-transmitting cable assemblies, would understand an "isolator" to be an element made of a material suitable for absorbing substantially all vibration transmitted to it from a controlled member via the core element so as to isolate components on the other end, such as a gear shifter or other actuator, from vibration. We further find, on the basis of the above facts, and Fact

4 in particular, that such a person would understand that not all materials are sufficiently soft to function as an isolator.

6. Corcoran discloses a pipe coupling which is capable of being operated without the use of tools and yet is locked against release by vibration or other unintentional force. Corcoran, col. 1, ll. 15-20. Corcoran describes operating sleeve 41 as being slidably assembled upon portion 42 of female pipe coupling member 20 and optionally knurled or otherwise provided with a similar frictional surface to facilitate manipulation of the sleeve 41. Corcoran, col. 3, ll. 12-13 and 28-32. To couple female member 20 to male member 10, male member 10 is thrust into female member 20 as shown in Figure 3 until pilot 16 of member 10 bottoms on packing 18. Corcoran, col. 3, ll. 33-37. Sleeve 41 is then moved to the right until the chamfer thereof rides over the camming surfaces 46 of heads 33 to drive heads 33 into clearance space 23 of male member 10 against surface 22, whereupon the groove 44 of sleeve 41 will have moved into position to receive the heads 33 as seen in Figure 6. Corcoran, col. 3, ll. 41-48.
7. Corcoran teaches that the positive locking of the pipe coupling in its coupled state suits it ideally to applications in which vibration is encountered without the need for safety wiring. Corcoran, col. 5, ll. 5-8. Corcoran, does not, however, provide any hint that the coupling is designed to absorb vibration, much less that the sleeve 41 thereof is designed for, or even capable of, absorbing vibration.
8. The Examiner has not made a finding that Corcoran's sleeve 41 is designed for, or even capable of, absorbing vibration.

9. Corcoran teaches that the device can be fabricated in virtually any material, including non-metallic materials such as plastic compositions and glass. Corcoran, col. 1, ll. 40-43. Corcoran does not explicitly teach making the sleeve 41 of soft plastic.
10. Resilience is “the ability to bounce or spring back into shape, position, etc.” *Webster's New World Dictionary* 1210 (David B. Guralnik ed., 2<sup>nd</sup> Coll. Ed., Simon & Schuster, Inc. 1984).
11. The term “soft” means “giving way easily under pressure, as a feather pillow or moist clay” or “not hard.” *Id.* at 1353.
12. Bung’s second socket member 26 has a central bore defining an upper socket at the top thereof (labeled A7 in the reproduced Figure 4 on page 15 of the Answer) and a lower socket at the bottom thereof (labeled A3 in the reproduced Figure 4 on page 15 of the Answer). The upper socket is capable of receiving, and thus adapted to receive, a suitably sized and configured connector pin, at least without first socket member 24 being received in the central bore of second socket member 26. The lower socket is capable of receiving first socket member 24. Bung, fig. 4.
13. Bung’s upper socket is not capable of receiving, and thus not adapted to receive, a connector pin when first socket member 24 is received in the lower socket of the second socket member 26 as illustrated in Figure 4.
14. Bung’s first socket member 24 is configured to be received by the lower socket of second socket member 26 and defines a socket (labeled A5 in the reproduced Figure 4 on page 15 of the Answer) configured to engage a suitably sized and configured connector pin.
15. Bung’s first socket member 24 has a deflectable wall. Bung, col. 3, ll. 27-37 and 49-53.

16. Bung's second socket member 26 has flanges 32 and 36 that engage with flanges 34 and 30 of first socket member 24 so that the first and second socket members interlock with one another when the device is assembled. Bung, col. 3, ll. 20-25 and 39-45. When a connector pin, such as a ball connection 41, is retained in the ball socket of first socket member 24, the interlocking of the first and second socket members prevents extraction of the connector pin from the assembly by preventing extraction of first socket member 24 from second socket member 26.

#### PRINCIPLES OF LAW

When construing claim terminology in the United States Patent and Trademark Office, claims are to be given their broadest reasonable interpretation consistent with the specification, reading claim language 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).

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). It is not necessary that the reference teach what the subject application teaches, but only that the claim read on something disclosed in the reference, i.e., that all of the limitations in the claim be found in or fully

met by the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983).

There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, \_\_\_, 127 S. Ct. 1727, 1741 (2007).

## ANALYSIS

### *Claims 1-6*

Independent claim 1 requires, *inter alia*, an “isolator.” As noted above, we find that a person of ordinary skill in Appellant’s field of invention, namely, terminals for motion-transmitting cable assemblies, would understand an “isolator” to be an element made of a material suitable for absorbing substantially all vibration transmitted to it from a controlled member via the core element so as to isolate components on the other end, such as a gear shifter or other actuator, from vibration. We further find, on the basis of the above facts, and Fact 4 in particular, that such a person would understand that not all materials are sufficiently soft to function as an isolator. Thus, consistent with Appellant’s Specification (*see* Fact 2), we construe the term “isolator” in claim 1 as it would be interpreted by a person of ordinary skill in the field of Appellant’s invention, that is, as an element made of a material suitable for absorbing substantially all vibration transmitted to it from a controlled member via the core element so as to isolate components on the other end, such as a gear shifter or other actuator, from vibration. Corcoran does not provide any hint that the coupling is designed to absorb vibration, much less that the sleeve 41 thereof is designed for, or even capable of, absorbing vibration. (Fact 7) Nor has the Examiner

made a finding that Corcoran's sleeve 41, on which the Examiner reads the claimed "isolator," is designed for, or even capable of, absorbing vibration. (Fact 8) We thus conclude the Examiner erred in finding that Corcoran's sleeve 41 is an "isolator" as called for in independent claim 1. Accordingly, we cannot sustain the rejection of claim 1 and claims 2, 3, 5 and 6 depending from claim 1 as being anticipated by Corcoran.

In rejecting claim 4 under 35 U.S.C. § 103(a) as being unpatentable over Corcoran, the Examiner reasons that "since the fingers 31 in Corcoran are resilient, one skilled in the art will use a soft plastic for its flexibility and further compose the other components from the same material to save cost instead of using different materials." Answer 7. Consequently, the Examiner determines it would have been obvious to make all of Corcoran's components, including the sleeve 41, of soft plastic. *Id.* This reasoning is flawed. The property of resilience cannot be equated with softness. Resilience is "the ability to bounce or spring back into shape, position, etc., while softness is the property of "giving way easily under pressure, as a feather pillow or moist clay" or "not hard." (Facts 10 and 11) An element can be resilient without being soft. Thus, the Examiner's articulated reasoning to support the conclusion of obviousness does not have a rational underpinning. Accordingly, we cannot sustain the rejection of claim 4.

#### *Claims 8 and 9*

Appellant does not present any separate arguments for the patentability of claim 9 apart from independent claim 8 from which it depends. Thus, in accordance with 37 C.F.R. § 41.37(c)(1)(vii) (2008), claim 9 stands or falls with representative claim 8.

We begin our analysis by making the following observations about claim 8. The phrase “a connector pin” appears several times throughout the claim. None of the appearances of “a connector pin” is positively tied back to any earlier appearance of “a connector pin.” Consequently, claim 8 does not require that the connector pin which the connector pin socket is adapted to receive be the same connector pin which the connector pin end socket is configured to engage or with which the terminal sub-assembly is mated. Claim 8 also does not require that the reverse clip cap be received by the reverse clip cap socket of the isolator at the same time that a connector pin is received in the connector pin socket of the isolator.<sup>1</sup> Claim 8 also does not require that the mating of a connector pin cause the reverse clip cap and isolator to interlock with one another.

Appellant asserts that “[t]he term ‘reverse clip cap’ refers to a clip cap that is inserted from the reverse, or opposite side, of the terminal sub-assembly, that is, the opposite side from the connector pin.” Appeal Br. 18. Appellant points to ¶ 9 of the present Specification for support for this assertion. While the cited portion of the Specification states that the reverse clip cap is inserted into the reverse clip cap socket on one side of the terminal sub-assembly and the connector pin is inserted into the connector pin end socket on the other side of the terminal sub-assembly, we find therein no express definition of the term “reverse clip cap.” Nevertheless, even assuming *arguendo* that “reverse clip cap” were so defined, Bung’s reverse clip cap would satisfy this definition, as it is inserted into the lower socket (A3) opposite the upper socket (A7) into which a connector pin is

---

<sup>1</sup> Claim 8 merely recites a reverse clip cap “configured to be received ... by the reverse clip cap socket of the isolator.”

capable of being inserted. (Facts 12 and 14) For the above reasons, Appellant's argument (1) does not demonstrate error in the Examiner's rejection.

Appellant's argument that Bung's second socket member 26 does not define a connector pin socket likewise is not persuasive. The upper socket (A7) of Bung's second socket member 26 (the structure on which the Examiner reads the isolator) is capable of receiving, and thus adapted to receive, a suitably sized and configured connector pin, at least without first socket member 24 being received in the central bore of second socket member 26.<sup>2</sup> (Fact 12) Bung's second socket member 26 therefore defines a connector pin socket as called for in the claim. The lower socket (A3) is capable of receiving first socket member 24, which, as discussed above, satisfies the requirements of a reverse clip cap. The lower socket (A3) thus is a reverse clip cap socket.

Appellant argues that Bung fails to disclose that the connector pin is prevented from extraction from the terminal sub-assembly when the reverse clip cap and isolator are interlocked with one another. This argument also is not persuasive of error in the Examiner's rejection. As noted above, claim 8 does not require that the mating of a connector pin cause the reverse clip cap and isolator to interlock with one another. Bung's second socket member 26 has flanges 32 and 36 that engage with flanges 34 and 30 of first socket member 24 so that the first and second socket members interlock with one another when the device is assembled. When a connector pin, such as a ball

---

<sup>2</sup> As noted above, claim 8 does not require that the reverse clip cap actually be received by the reverse clip cap socket of the isolator when a connector pin is received in the connector pin socket.

connection 41, is retained in the ball socket of first socket member 24, the interlocking of the first and second socket members prevents extraction of the connector pin from the assembly by preventing extraction of first socket member 24 from second socket member 26. (Fact 16) Accordingly, we find that Bung satisfies the limitations in the final paragraph of claim 8.

For the above reasons, Appellant's arguments fail to demonstrate error in the Examiner's rejection of claim 8. We therefore sustain the rejection of claim 8 and claim 9, which stands or falls with claim 8.

### *Claim 13*

Unlike claim 8, claim 13 positively requires a reverse clip cap seated in the reverse clip cap socket of the isolator. The Examiner reads the connector pin socket of the isolator on the upper socket (A7) of second socket member 26 of Bung. Answer 6. Bung's upper socket is not capable of receiving, and thus not adapted to receive, a connector pin when first socket member 24 is received in the lower socket of the second socket member as illustrated in Figure 4. (Fact 13) Bung's upper socket (A7) thus does not satisfy the limitation in claim 13 of "a connector pin socket, adapted to receive a connector pin." Appellant's argument that Bung's second socket member 26 does not define a connector pin socket thus demonstrates error in the Examiner's rejection of claim 13. We cannot sustain the rejection of claim 13.

### CONCLUSIONS OF LAW

Appellant demonstrates the Examiner erred in finding that Corcoran's sleeve 41 is an "isolator" as called for in claims 1-6.

Appeal 2008-2864  
Application 10/159,755

None of Appellant's arguments demonstrates error in the Examiner's rejection of claims 8 and 9.

Appellant's argument that Bung's second socket member 26 does not define a connector pin socket demonstrates error in the Examiner's rejection of claim 13.

Accordingly, we sustain the rejection of claims 8 and 9 as being anticipated by Bung. We reverse the rejections of claims 1-3, 5, and 6 as being anticipated by Corcoran, the rejection of claim 4 as being unpatentable over Corcoran, and the rejection of claim 13 as being anticipated by Bung.

#### DECISION

The Examiner's decision is affirmed as to claims 8 and 9 and reversed as to claims 1-6 and 13.

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) (2008).

AFFIRMED-IN-PART

vsh

BANNER & WITCOFF, LTD.  
28 STATE STREET  
28th FLOOR  
BOSTON, MA 02109-9601