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Paper 11
Date: May 23, 2013

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BERK-TEK LLC
Petitioner

v.

BELDEN INC.
Patent Owner

Case IPR2013-00069 (JL)
Patent 7,663,061

Before JAMESON LEE, STEPHEN C. SIU, and JOSIAH C. COCKS, *Administrative Patent Judges.*

COCKS, *Administrative Patent Judge.*

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner Berk-Tek, LLC ("Berk-Tek") requests *inter partes* review of claims 1-21 of US Patent 7,663,061 (" '061 Patent") (Ex. 1001) pursuant to 35 U.S.C. §§ 311 et seq.[1] The Patent Owner, Belden Inc. ("Belden"), filed no preliminary response. We have jurisdiction under 35 U.S.C. § 314.

The '061 Patent includes 21 claims. Claims, 1, 7, 12, and 19 are independent claims. For the reasons set forth *infra*, we conclude that Berk-Tek has shown a reasonable likelihood that it would prevail with respect to each of claims 1-21 of the '061 Patent on at least one ground of unpatentability.

Accordingly, pursuant to 35 U.S.C. § 314, we authorize an *inter partes* review to be instituted for all claims 1-21 of the '061 Patent.

A. STANDARD FOR INSTITUTING REVIEW

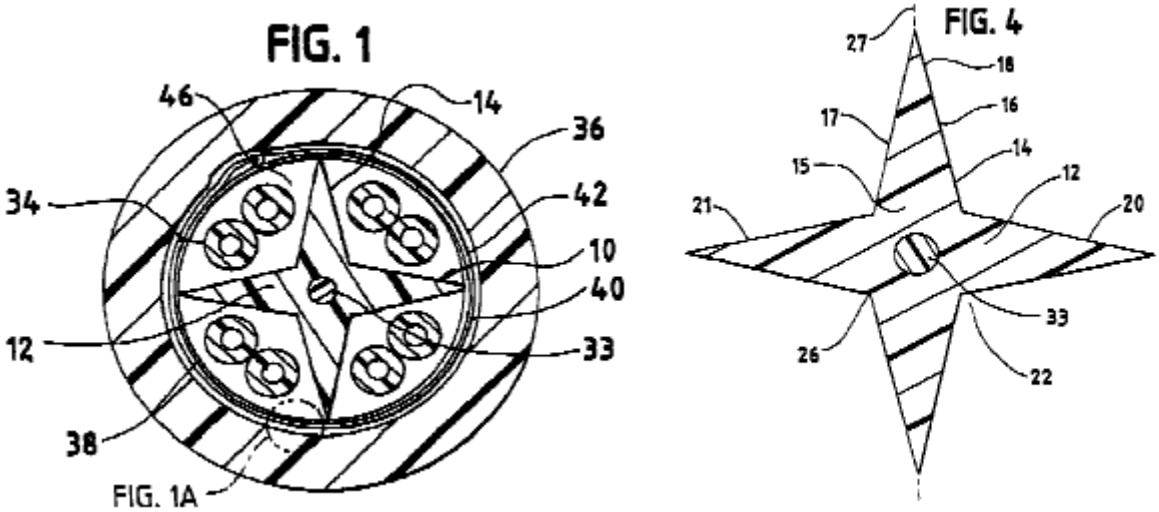
The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides as follows:

> THRESHOLD -- The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

[1] *See* "Petition for *Inter Partes* Review Under 37 C.F.R. § 42" filed December 3, 2012 ("Pet.") (Paper 1). At the time the Petition was filed, Nexans, Inc. was identified as the real party in interest. In a Mandatory Notice filed April 18, 2013 pursuant to 37 C.F.R. § 42.8(a)(3) (Paper 10), the real party in interest is indicated as having changed from Nexans, Inc. to Berk-Tek LLC, a successor in interest.

B. THE '061 PATENT

The '061 Patent relates to a high performance data cable using twisted pairs of conductors. (Ex. 1001, 1:12-13.) The cable incorporates an interior support around which the twisted pairs are disposed. (*Id*. at 1:13-14.) Figure 1 illustrates an embodiment of the invention in which the interior support is characterized as a "star separator" and has a central region 12 with four "prongs or splines" 14 extending from the central region. (*Id*. at 4:14-29.) As shown in Figures 1 and 4, reproduced below, twisted pairs of conductors 34 are disposed within channels or grooves 22 formed between the splines. (*Id*. at 4:42-48; 5:10-12.)



Figures 1 and 4 depict embodiments according to the invention of the '061 Patent

The '061 Patent includes four independent claims. Those independent claims are each directed to either a "communications cable" or a "data communications cable."

Claim 1 is reproduced below:

1. A communications cable comprising:

> a plurality of twisted pairs that carry communications signals;
>
> a pair separator disposed among the plurality of twisted pairs, the pair separator comprising a central body portion and a plurality of arms radially extending from central body portion, each pair of adjacent arms defining a channel; and
>
> a cable covering surrounding the plurality of twisted pairs and the pair separator along the length of the cable;
>
> wherein at least one twisted pair of the plurality of twisted pairs is respectively located in the channel defined by each pair of adjacent arms;
>
> wherein the plurality of twisted pairs and the pair separator are helically twisted together along the length of the cable; and
>
> wherein the cable covering does not include an electrically conductive shield.

(*Id*. at 6:42-59.)

C. INVOLVED PRIOR ART

Berk-Tek challenges the patentability of claims 1-21 on the basis of the following prior art:

U.S. Patent

3,209,064 ("**Cutler '064**")	September 28, 1965	Ex. 1004

Foreign Patent Documents

JP Patent Sh061(1986)-13507 ("**JP '507**")	January 21, 1986	Ex. 1008

JP Utility Model Application Sh056(1981)-8011 ("**JP '011**")	January 23, 1981	Ex. 1007
JP Patent Sh056(1981)-7307 ("**JP '307**")	January 26, 1981	Ex. 1005
CA 2,058,046 Patent Application ("**Tessier '046**")	August 22, 1992	Ex. 1003
CA 2,071,417 Patent Application ("**Meer '417**")	December 18, 1993	Ex. 1006

Non-Patent Documents

Bell communications Research Technical Advisory TS-TSY-000020 Issue 5 ("**Bell**")	August 1986	Ex. 1009
James J. Refi, Fiber Optic Cable: A Lightguide (1991) ("**Refi**")		Ex. 1010

D. THE ALLEGED GROUNDS OF UNPATENTABILITY

Berk-Tek alleges the following grounds of unpatentability (*See* Pet. 14):

Anticipation

1. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 102 as anticipated by Tessier '046;

2. Claims 7, 10, and 11 are unpatentable under 35 U.S.C. § 102 as anticipated by Cutler '064;

Obviousness

3. Claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Tessier '046 and JP '307;

4. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 103 as obvious over Tessier ’046 and Cutler ’064;

5. Claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Tessier ’046, Cutler ’064, and JP ’307;

6. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Tessier ’046 and Meer ’417;

7. Claims 1-5 and 12-20 are unpatentable under 35 U.S.C. § 103 as obvious over Tessier ’046 and JP ’011;

8. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Tessier ’046, JP ’011, and Meer ’417;

9. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 103 as obvious over Cutler ’064 and Tessier ’046;

10. Claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Cutler ’064 and JP ’307;

11. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Cutler ’064, Tessier ’046, and Meer ’417;

12. Claims 1-5 and 7-21 are unpatentable under 35 U.S.C. § 103 as obvious over JP ’307 and Tessier ’046;

13. Claims 1-5 and 7-21 are unpatentable under 35 U.S.C. § 103 as obvious over JP ’307 and JP ’507;

14. Claims 1-5 and 12-20 are unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, Tessier ’046, and JP ’011;

15. Claims 1-5 and 12-20 are unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, JP ’507, and JP ’011;

16. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, Tessier ’046, and Meer ’417;

17. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, JP ’507, and Meer ’417;

18. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, Tessier ’046, JP ’011, and Meer ’417;

19. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over JP ’307, JP ’507, JP ’011, and Meer ’417;

20. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 103 as obvious over JP ’507 and JP ’011;

21. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over JP ’507 and JP ’011;

22. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 103 as obvious over Bell and Tessier ’046;

23. Claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Bell, Tessier ’046, and Refi;

24. Claim 21 is unpatentable under 35 U.S.C. § 103 as obvious over Bell, Tessier ’046, and JP ’307;

25. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Bell, Tessier ’046, and Meer ’417;

26. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Bell, Tessier ’046, Refi, and Meer ’417;

27. Claims 1-5 and 7-20 are unpatentable under 35 U.S.C. § 103 as obvious over Refi and Tessier ’046; and

28. Claim 6 is unpatentable under 35 U.S.C. § 103 as obvious over Refi, Tessier ’046, and Meer ’417.

II. ANALYSIS

A. CLAIM CONSTRUCTION

The Board construes a claim in an *inter partes* review using the “broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see Office Patent Trial Practice Guide*, 77 *Fed. Reg.* 48756, 48766 (Aug. 14, 2012). There is a “heavy presumption” that a claim term is given its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359. 1366 (Fed. Cir. 2002). Indeed, the ordinary and customary meaning as would be understood by one with ordinary skill in the art usually applies unless an inventor has acted as his or her own lexicographer and has set forth a special meaning for a claim term. *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998). Furthermore, in some cases, the ordinary meaning of claim language to one of ordinary skill in the art is readily apparent even to lay judges such that claim construction “involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc).

Here, the inventors of the ’061 Patent have not acted as their own lexicographers. Neither has the presumption been overcome that the claim terms

have their ordinary and accustomed meaning from the perspective of one with ordinary skill in the art. Berk-Tek also does not propose any special construction of any claim term.

B. DISCUSSION

Berk-Tek proposes 28 grounds of unpatentability of the claims of the '061 Patent. Many of those grounds involve the disclosure of Tessier '046. For instance, Berk-Tek contends that Tessier '046 anticipates claims 1-5 and 7-20 and renders obvious claims 6 and 21 when that reference is taken in combination with Meer '417 (claim 6) or JP '307[2] (claim 21).

i. Tessier '046 (claims 1-5 and 7-20)

Tessier '046 is directed to the manufacture of telecommunications cable. (Ex. 1003, Title.) Its "Abstract of the Disclosure" is reproduced below:

> A telecommunications cable in which pairs of twisted together conductors are spaced apart to minimize capacitance unbalance and cross-talk. A central core member may be provided with the conductor pairs extending around the core member which may have spokes to separate the conductor pairs. Alternatively, the cable jacket has inwardly directed spacers which separate the conductor pins and hold them in recesses defined by the jacket.

(*Id.* at 9.)

In contending that claims 1-5 and 7-20 of the '061 Patent are anticipated, Berk-Tek directs the Board's attention to Figures 2 and 3 of Tessier '046 and their associated description. (Pet. 25-28.) Each of those figures depicts an embodiment of the Tessier'046's telecommunications cable. The figures are reproduced below:

[2] Citations to JP '307 appearing *infra* are to the English translation of that Japanese document contained within the same exhibit (Ex. 1005).

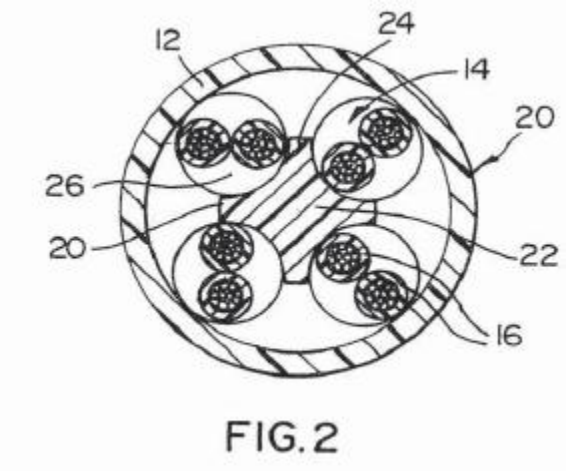


FIG. 2

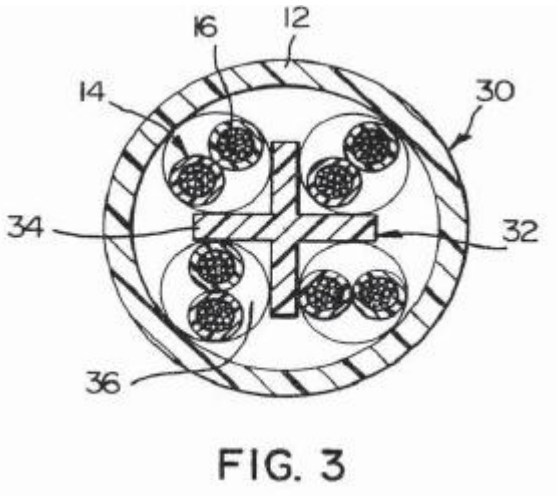


FIG. 3

Figures 2 and 3 depict embodiments
according to the invention of Tessier '046

As shown in Figure 2, cable 20 includes multiple pairs 14 of twisted insulated conductors 16 positioned around a central core member 20[3]. (Ex. 1003, 3-4.) The core member is formed of a dielectric material, and includes "four radially outwardly extending projections 24[.]" (*Id*. at 4.) Similarly in Figure 3, cable 30 includes pairs 14 of conductors 16 spaced around "a spacer means in the form of a body 32 formed by four helically extending spokes 34[.]" (*Id*.) In each figure, the conductors 16 are arranged within recesses (26 and 36) that lie inbetween the projections or spokes. Each cable also incorporates a jacket 12 as a surrounding outer layer of the cable. (*Id*. at 3-4.) Furthermore, neither cable is expressed as incorporating any shield or other layer between jacket 12 and the conductor and support components within the cables.

Anticipation is established when a single prior art reference discloses every claim element arranged in the manner required by a claim. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001). Berk-Tek contends that

[3] In Figure 2, reference character "20" is used to designate the overall cable structure as well as the central core member contained within the cable.

the reference discloses all of the features of claims 1-5 and 7-20 in the manner required by those claims. (*See* Pet. 25-28.) In light of the evidence and reasoning presented by Berk-Tek, we are persuaded that its contention is correct.

For example, each of claims 1, 7, 12, and 19 requires "a plurality of twisted pairs that carry communications signals" and a "pair separator" or "interior support" with arms defining channels that receive the twisted pairs. Tessier '046 characterizes its invention as providing:

> an electrical telecommunications cable comprising a plurality of pairs of individually insulated conductors, the conductor in each pair twisted together, and spacer means holding the pairs of conductors spaced apart.

(Ex. 1003, 2:1-5.)

As illustrated in connection with Figures 2 and 3 (reproduced *supra*), the spacer means (core member 20 or body 32) incorporate "projections 24" or "spokes 34" defining recesses that receive the twisted conductor pairs. (*Id*. at 3-4.) As such, it constitutes a pair separator or interior support with arms forming channels that receive twisted conductor pairs, as set forth in claims 1, 7, 12 and 19.

The claims also require either a "cable covering" or a "jacket" surrounding the plurality of twisted pairs and the separator or support along the length of the cable. Tessier '046's cable incorporates a jacket 12 that surrounds the twisted pairs. (*Id*.) Each of claims 1, 7, and 19 further specifies that the cable covering or jacket does not include an electrically conductive shield. Tessier '046 does not describe any shield, electrically conductive or otherwise, associated with the cables of its Figures 2 and 3. We are satisfied that, in this case, the non-disclosure of a shield indicates the absence of a shield as a part of the cable.

In reviewing the record before us, we conclude that Berk-Tek has made an adequate showing that Tessier ’046 accounts for all the features of independent claims 1, 7, 12, and 19.

We reach the same conclusion with respect to dependent claims 2-5, 13-18, and 20. For instance, claims 2, 8, and 13 require “four twisted pairs.” Each of Tessier ’046’s Figures 2 and 3 (reproduced *supra*) show four such pairs (pairs 14). Claims 3, 9, and 14 set forth that the interior separators or supports include “four arms” and claims 4, 10, and 15 require that a single twisted pair resides in the channels defined by the arms. Those features and configurations are also depicted plainly in Tessier ’046’s Figures 2 and 3 (recesses 26 and 36 containing conductor pairs 14). Other claims, *e.g.*, claims 5, 11, and 20, specify a “dielectric material” as the material from which the separator or interior support is formed. As noted above, such a material is contemplated by Tessier’046 for its spacer means. (Ex. 1003, 4.)

Accordingly, we are persuaded that Berk-Tek has shown a reasonable likelihood that it would prevail in its assertion that claims 1-5 and 7-20 are anticipated by Tessier ’046.

ii. Tessier’046 and Meer ’417 (claim 6)

Claim 6 depends from claim 1 and adds the limitation “wherein the communications cable is about 0.300 to 0.400 is [sic] diameter.” In the context of the specification of the ‘061 Patent, it is evident that the expressed diameter values are in inches. (*E.g.*, *see* Ex. 1001, 3:10-11.) Although the telecommunications cables disclosed in Tessier ’046 clearly have diameters, the reference is not explicit as to the dimensions of those diameters. To make up for that deficiency, Berk-Tek points to the teachings of Meer ’417.

Meer '417 discloses a telecommunications cable incorporating a core formed of a plurality of twisted pairs of conductors. (Ex. 1006, 1.) Meer '417 characterizes its invention as follows:

> The present invention provides a telecommunications cable which is capable of providing desired electrical characteristics when transmitting high frequency multiplex signals while it is also possible to minimize the outside diameter of the cable.

(*Id*. at 3.)

In describing example embodiments of its invention, Meer '417 express that the "O.D.," *i.e.*, the outside diameter, of a cable may vary from "0.27" to "0.32" to "0.43" inches. (*Id*. at 8.) Berk-Tek relies on that disclosure in Meer '417 in accounting for the added feature of claim 6. (Pet. 34.) Berk-Tek thus concludes that claim 6 would have been obvious given the teachings of Meer '417 taken with Tessier '046.

We agree with Berk-Tek's conclusion. Meer '417 makes clear that in the art of telecommunication cables, the outer diameter of such cables is variable and is desirably minimized. In that regard, Meer '417 expresses that large cable diameters exacerbate a problem of "cable congestion" recognized in the art. (Ex. 1006, 1:33-36.) Meer '417 conveys that diameters that are of suitable dimensions range from 0.27 to 0.43 inches. (*Id*. at 8) The diameters set forth in Meer '417 include those falling within the range specified by claim 6, *i.e.*, "about 0.300 to 0.400" inches. In light of the teachings of Meer '417, a person of ordinary skill in the art would have understood that the particular diameter values that are encompassed by claim 6 are known for the diameter of telecommunications cables. Furthermore, in our view, a skilled artisan would have appreciated reasonably that other similar telecommunication cables, such as those of Tessier '046, may also be so dimensioned. To that end, Meer '417 conveys that such cable diameters were

understood to be suitable for telecommunication cables and are chosen to alleviate cable congestion. Accordingly, we are persuaded that Berk-Tek has demonstrated a reasonable likelihood that it will prevail in its contention that claim 6 would have been obvious over Tessier ’046 and Meer ’417.

iii. Tessier ’046 and JP ’307 (claim 21)

Claim 21 depends from claim 7 and adds the limitation “wherein the pair separator and the plurality of twisted pairs are cabled in an S-Z configuration.” In the context of the ’061 Patent, the type of cabling of the separator and twisted pairs is expressed as being a “helixed or S-Z configuration” (’061 Patent 5:18-19) or a “helical or S-Z twist” (*id*. at 6:21-23). On this record, the ’061 Patent reasonably appears to convey that a helixed or helical arrangement is an “S-Z configuration.”

Tessier ’046 describes that the projections 24 and recesses 26 associated with core member 20 (Figure 2,) and spokes 34 and recesses 36 associated with spacer body 32 (Figure 3) “extend in a helical fashion” or “extend helically.” (Tessier ’046, 4.) In extending helically, the core components of Tessier ’046’s cables are understood seemingly as being in an S-Z configuration.

In any event, even assuming that the helical arrangements disclosed in Tessier ’046 do not constitute an “S-Z configuration,” Berk-Tek points to the teachings of JP ’307 in accounting for that particular configuration. (Pet. 29.) Specifically, Berk-Tek submits that:

> JP ’307 shows Figures 2-4 also shows [sic] a plus shaped separator used in a communication cable that states that the separator and conductors are S-Z stranded. See JP ’307 (eng. Trans. Pg. 24, paras. 3-4).

(*Id*.)

JP ’307 is directed to the manufacture of communications cable that include an insulator core and a plurality of conductors stranded together to form pairs. (Ex. 1005, 1, “Detailed Explanation of the Invention”.) Paragraphs 3 and 4 of JP ’307 describe insulator 3 and conductors 7 that are passed through “stranding dies 10” and result in “SZ stranded wire in which stranded part S and stranded part Z are alternated.” Given JP ’307’s teachings, we are persuaded that a person of ordinary skill in the art would have appreciated that the “S-Z configuration” called for in claim 21 is a known configuration option in the art of telecommunication cables.

We are also persuaded that a skilled artisan would have appreciated readily that an S-Z arrangement, as is set forth in JP ’307, is a suitable option for the cable of Tessier ’046. In that regard, Tessier ’046 discloses that the core components of the cable are twisted or “stranded.” (*E.g.*, Ex. 1003, 4:14-17; *see also* 1:4-33.) As noted above, in some of Tessier ‘046’s embodiments, stranding the components arranges them in a configuration characterized as “helical.” While a helical configuration may not amount to an “S-Z configuration,” we observe that Tessier ’046 does not mandate any one particular stranding technique to the exclusion of other such techniques that would have been appreciated by those of ordinary skill in the art. JP ’307 conveys that another known stranding technique results in an arrangement of cable interior components that are “SZ stranded.” (Ex. 1005, para. 3.) In addressing design needs in the art, a skilled artisan has good reason to pursue the options that are known and within his or her technical grasp. *See KSR Int’l Co. v. Teleflex Inc.,* 550 U.S. 398, 421 (2007). Here, the art conveys that, in manufacturing telecommunication cable, the interior components of the cable preferably are stranded to assume either a helical configuration or an S-Z configuration. We conclude that a person of ordinary skill in the art would have

had adequate reason to select one particular known approach for stranding cable components, *i.e.*, one which results in an S-Z configuration, when designing telecommunication cables.

Accordingly, for the foregoing reasons, we are persuaded that Berk-Tek has shown that it has a reasonable likelihood of success in its contention that claim 21 is obvious over the combined teachings of Tessier ’046 and JP ’307.

iv. The Remaining Grounds of Unpatentability

In addition to the grounds of unpatentability discussed above, Berk-Tek also alleges multiple alternative grounds in connection with the claims of the ‘061 Patent. Upon review of those alternative grounds, we conclude that they are redundant in light of the grounds on the basis of which we institute review.

III. CONCLUSION

For the foregoing reasons, we determine that Berk-Tek has established that there is a reasonable likelihood that it would prevail in demonstrating unpatentability of all claims 1-21 of the ’061 Patent.

IV. ORDERS

After due consideration of the record before us, it is:

ORDERED that Berk-Tek’s petition is *granted* and pursuant to 35 U.S.C. § 314, *inter partes* review is instituted on the following grounds with respect to which we grant the petition:

1. Claims 1-5 and 7-20 under 35 U.S.C. § 102 as anticipated by Tessier ’046;
2. Claim 6 under 35 U.S.C. § 103(a) as unpatentable over Tessier ’046 and Meer ’417;

3. Claim 21 under 35 U.S.C. § 103(a) as unpatentable over Tessier '046 and JP '307.

FURTHERED ORDERED that all other grounds presented in Berk-Tek's petition are *denied*, and no ground other than those specifically granted above is authorized for this *inter partes* review of claims 1-21.

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial; the trial is commencing on the entry date of this decision; and

FURTHER ORDERED that an initial conference call with the Board is scheduled for 1:00 PM Eastern Time on June 19, 2013. The parties are directed to the Office Patent Trial Practice Guide, 77 *Fed. Reg.* 48756, 48765-66 (Aug. 14, 2012), for guidance in preparing for the initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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