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howard@fraser-ip.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte FLORIAN DOLD, ADOLF BISSIG,
MANFRED WIRTH, ERNST ACH, and
CLAUDIO DE ANGELIS

Appeal 2015-000677
Application 11/459,138
Technology Center 3600

Before: LYNNE H. BROWNE, MICHELLE R. OSINSKI, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

DOUGAL, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the rejection of claims 44, 45, 50, 51, 53–55, 57–59, 64, 65, and 67–70 under 35 U.S.C. §103(a) as unpatentable over Ericson, Parrini, De Josez, and De Angelis. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

The claims are directed to an elevator installation. Claims 44 and 57, reproduced below, are illustrative of the claimed subject matter:

44. An elevator installation comprising:

a support for supporting a car and a counterweight, said support having a cable or cable strand and a cable casing, said cable casing being formed of substantially thermoplastic or elastomeric material and said cable or cable strand being enclosed by said cable casing; and

a fastening device for fastening an end of said support to the car, the counterweight or an elevator shaft, said fastening device including a wedge housing with a wedge pocket and a wedge,

said support extending between said wedge and said wedge pocket, looping substantially around said wedge and being held by said wedge in said wedge pocket, wherein a longitudinal wedge groove is formed in one of said wedge and said wedge pocket and a portion of said support is clamped in said longitudinal wedge groove, said longitudinal wedge groove extending along a path of the looping of said support substantially around said wedge and said longitudinal wedge groove having a width transverse to the path of looping less than a width of said support transverse to the path of looping.

57. An elevator installation comprising:

a support for supporting a car and a counterweight, said support including a cable or cable strand and a cable casing, said cable casing being formed of substantially thermoplastic or elastomeric material and said cable or said cable strand being enclosed by said cable casing; and

a fastening device for fastening an end of said support to the car, the counterweight or an elevator shaft, said fastening device including a wedge housing with a wedge pocket and a wedge, and

a portion of said support extending between said wedge and said wedge pocket, looping substantially around said wedge and being held by said wedge in said wedge pocket by a friction force resulting from a friction coefficient present in a region of

said wedge and a region of said wedge pocket in cooperation with a contacting region of said cable casing,

wherein at least one of the region of said wedge, the region of said wedge pocket, and the region of said cable casing is provided with a surface having a reduced coefficient of friction relative to a coefficient of friction of another surface of said region of said wedge, said wedge pocket, or said cable casing respectively.

REFERENCES

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Ericson	US 6,357,085 B2	Mar. 19, 2002
De Josez	US 6,412,264 B1	July 2, 2002
De Angelis	US 2001/0030608 A1	Oct. 18, 2001
Parrini	US 2004/0110441 A1	June 10, 2004

OPINION

Claims 44, 53, and 55

The Examiner finds that Ericson teaches the majority of features of independent claim 44. Answer 2–4. The Examiner further finds that “it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ericson transverse/horizontally striated/grooved wedge to be longitudinally/vertically striated/grooved to better accept a vertically striated/grooved support/cable/belt such as that taught by Parrini’s figures 3 and/or 4.” *Id.* at 3.

Appellants argue that “[t]he cited combination of Ericson and Panini fails to teach or remotely suggest a wedge of an elevator installation with a ‘longitudinal wedge groove,’ as recited in independent Claim 44.” Appeal Br. 11. Rather, Appellants argue, the combination “would result in the

Parrini poly-V belt looped around the Ericson wedge, with the flat side of the poly-V belt being disposed against the striations as taught by the normally flat tension members or belts of Ericson.” *Id.*

Appellants also argue “that anyone looking to Parrini for a substitute belt would naturally select the cogged belt shown in FIG. 2 of Parrini, as opposed to the poly-V belt in FIG. 3, since the ribs are oriented in the same direction as the Ericson striations (83).” *Id.* at 15.

The Examiner responds:

one of ordinary skill would have easily recognized that the Ericson figure 7 transverse/horizontal striations must be modified to be longitudinal/vertical in order to work with the old and well known belt/cable/support of Parrini’s figure 2 (and or figure 3). Appellant’ (sic) implication that one would not know to modify Ericson as such in order to use the Parrini figure 3 (and 4) longitudinal/vertical striation style belts, but must rather be satisfied solely with the Parrini figure 2 transverse/horizontal striation style belt would presume a vastly lower than ordinary skill in the art. This particular “longitudinal” claim limitation does nothing more than what one of ordinary skill would be required to do to Ericson in order to accept the Parrini figure 3 (or figure 4) belt over the Parrini figure 2 belt.

Answer 13–14.

Appellants respond that “modification of the wedge-based fastening devices to account for poly-V belts is unnecessary” and that “combining of the poly-V belts of Parrini with the wedge-based fastening device of Ericson does not necessarily result in Ericson also being modified to have longitudinal grooves in either the wedge or wedge pocket.” Reply Br. 5–6.

Appellant’s argument that one skilled in the art would select Parrini’s cogged belt, rather than its poly-V belt presumes little or no skill on the part of one skilled in the art, and thus, is not well taken. The Supreme Court

instructs us that “a person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Appellants’ arguments are further unconvincing as they do not demonstrate why the Examiner’s reasoning is incorrect (i.e. why it would not be obvious to modify Ericson to “better accept” the poly-V belts of Parrini). Rather than address the Examiner’s reasoning, Appellants’ arguments envision different situations, such as what would happen with Parrini’s cogged belt. Further, Appellants’ statement that the flat side of the poly-V belt would be disposed against the striations does not address the fact that Ericson teaches that both sides, the wedge and the jaws (i.e. wedge pocket) have a roughened surface/striations. As the claim requires that the longitudinal groove be on either the wedge or wedge pocket this argument does not differentiate the prior art from the claim. Appellants’ arguments that a different style belt would be preferred and that it is not necessary to change the wedge of Ericson does not show why the modification would not be obvious in view of the findings of the Examiner as laid out in the rejection.

Appellants next discuss channel 88 of Erikson and grooves in sheaves and pulleys. Appeal Br. 11–12. Both of these arguments deal with topics or points not relied on by the Examiner in the rejection. Thus, they do not inform us of error in the rejection.

Continuing on page 12–13 of the Appeal Brief, Appellants argue that the proposed modification would “remove [the] transverse locking features” and would no longer have the advantages of the “locking features” which

would render “the Ericson locking device . . . unsatisfactory for its intended purposes.” It is unclear why this would be the case.

In particular, the rejection does not call for the removal of the “locking features” but merely a change of orientation from the illustrated embodiment of Ericson Figure 7. The locking features of Ericson are not limited to the transverse orientation. Ericson states “that the locking features may comprise grooves, striations 83 (FIG. 7), cuts, diamond pattern, or other suitable equivalents.” Ericson, col 6:7–9. Thus, the proposed modification would appear to be consistent with the teachings of Ericson, which states that the locking features can be grooves without any mention of the orientation of the grooves.

Appellants further argue that “‘longitudinal grooves’ recited in independent Claim 44 are not among the various etching, knurling, transverse striations, diamond patterns, etc. described by Ericson” as ways of roughening the surface. Reply Br. 4. But as mentioned previously, Ericson specifically mentions grooves as an example of locking features or “ways of roughening the surface.” Thus, Appellants’ argument is unconvincing.

Appellants then argue that the Examiner made an unsupported finding of inherency. Appeal Br. 13–14. Appellants focus on the single channel 88 of Ericson and argue that the Examiner must be considering the channel 88 to be the claimed longitudinal grooves. *Id.* at 14. It is argued that this channel does not have the claimed “width transverse to the path of looping less than a width of said support transverse to the path of looping” and thus such a feature would not be inherent in Ericson. *Id.* However, the rejection does not rely on inherency or channel 88 to meet the limitation at issue. Answer 2. Thus, this argument does not inform us of error in the rejection.

Finally, Appellants argue that the rejection is based on impermissible hindsight. *Id.* at 15. But, rather than provide additional argument, Appellants simply list the issues discussed *supra*. As these issues have been addressed above this argument does not inform us of error in the rejection of claim 44.

For these same reasons, we sustain the rejection of claims 53 and 55 which depend from claim 44 and are not separately argued. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Claim 45

Claim 45 depends from claim 44 and adds “wherein said support has a loose run and a supporting run and said longitudinal wedge groove is formed in one of a wedge adhesion surface and a wedge pocket adhesion surface disposed closer to said loose run.” The Examiner relies on Ericson to teach the features of claim 45. Answer 5.

Appellants argue that the limitations of claim 45 are not addressed by that Examiner, no rationale is provided for the rejection, and “a teaching of a placement of a longitudinal wedge groove closer to the loose run than the supporting run is not apparent in . . . Ericson.” Appeal Br. 16.

The Examiner responds that Ericson teaches “support **(22)** [] has a loose run **(48)** and a supporting run **(44)** and said longitudinal wedge groove is formed in a wedge adhesion surface **(left surface of wedge 32 contacting loose run 48)** disposed closer to said loose run.” Answer 19.

Appellants do not respond to the Examiner’s further explanation of how Ericson teaches the features of claim 45. Appellants also do not identify any errors in the Examiner’s reasoning or point to any missing

elements from claim 45 in the identified teachings of Ericson. Thus, we are not apprised of error in the rejection.

Claims 57, 67, 69, and 70

In rejecting independent claim 57, the Examiner relies on similar teachings of Ericson and Panini and the same rationale for combining them as in claim 44. Answer 7. Additionally, the Examiner relies on Ericson's teaching that "the wedge is made of smooth steel and the casing is made of urethane coating that is elastomeric" for the "additional 'friction' limitations" of the claim. *Id.*

The Examiner also offers an alternative reasoning for the "friction limitations" stating: "[a]lternatively, the examiner has previously taken official notice that it was extremely well known to be desirable to spray elevator cables with lubricant for the purpose of reducing friction wear and corrosion thereby increasing cable life." *Id.* at 8.

In both the Appeal Brief and Reply Brief Appellants argue that "Claim 57 does not recite an elevator cable sprayed with a 'lubricant.'" Appeal Br. 18; Reply Br. 9. Appellants' arguments surrounding claim 57 focus exclusively on the Examiner's alternative reasoning and do not address the main grounds of rejection which relies upon Ericson's disclosure of urethane coating to meet the friction limitations (Answer 7). *See* Appeal Br. 16–18; *see also* Reply Br. 9. Thus, we are not apprised of error in the rejection of claim 57.

Because we are not apprised of error in the Examiner's main reasoning rejecting claim 57 it is unnecessary for us to consider the merits of the Examiner's alternative reasoning.

Claims 67, 69, and 70 depend from claim 57 and are not separately argued. Thus, claims 67, 69, and 70 fall with claim 57. *See* 37 C.F.R. § 41.37(c)(1)(vii).

Claims 50, 51, 64, and 65

Claims 50 and 64 depend from independent claims 44 and 57, respectively, and add “wherein said wedge is formed of a material which is soft by comparison with steel.” Claims 51 and 65 depend from claims 50 and 64, respectively, and add “wherein said wedge material is one of aluminum, synthetic material and a compound of metal and synthetic material.”

The Examiner “take[s] official notice that aluminum was known to be very desirable for its low weight” and “[t]he resulting aluminum wedge would inherently be softer by comparison with steel.” Answer 5–6; *see also id.* at 10.

Appellants do not challenge the Examiner finding, but instead respond that the relative softness of the wedge material is critical. Appeal Br. 19. Appellants cite to the Specification which states:

The use of a soft material [for the wedge] produces an evening out of pressure points and correspondingly preserves the support means. In the case of use of a metal and synthetic material composite the possibility is additionally offered of realizing special sliding characteristics. With use of materials with a low modulus of elasticity the jump in stiffness between the wedge or the housing and the support means can be reduced, which results in an enhanced supporting force.

Id. (citing Specification p. 7, ll. 13–18).

But, this purported evidence of criticality does not have the same scope as the claims. The portion of the Specification cited by Appellants

discusses the relative softness of the wedge as compared to the support means (“the jump in stiffness”), implying that the support means is made of a stiffer or harder material. This difference in materials is not claimed. Thus, the scope of the claims and the scope of the cited benefit are not consistent. For this reason we are not informed of error in the rejection of claims 50, 51, 64, and 65.

Claims 54 and 68

Claims 54 and 68 depend from claims 44 and 57, respectively, and add “wherein an end of said support is divided into individual cable runs or cable strand runs and each said run is clamped by an associated longitudinal wedge groove formed in one of said wedge and said wedge pocket.”

The Examiner finds that the term “divided” in claims 54 and 68 is not limited to “cutting or tearing” and rejects the claims on two alternative grounds. Answer 6–7, 11, and 22. First, claims 54 and 68 are rejected over Ericson where the claimed individual cable runs are found to be “**loose run 48 and supporting run 44,**” each run being clamped in the wedge. *Id.* at 6 and 11.

In the alternative, the Examiner finds “that an end of said support (22) [of Ericson] is divided into individual [cable runs or] cable strand runs” because Ericson’s cords “**are described as being embedded in a coating to form the support cable 22.**” *Id.* at 6–7 and 11 (citing Ericson, 1:62–2:10). The Examiner further finds that in view of Parrini “each [of] said run is clamped by an associated longitudinal wedge groove.” *Id.* at 7 and 11. The Examiner also finds that “a ‘cable or cable strand’ can comprise more than a single cord in accordance with appellant’s own figures 5 and 6.” *Id.*

Appellants argue that “the cited combination . . . does not teach or fairly suggest dividing an end of a support or belt into individual cable runs or cable strand runs, which in turn are each clamped into their respective longitudinal wedge grooves.” Appeal Br. 20. Appellants also reproduce Figures 8 and 8a as examples of the claimed limitation and cite certain advantages listed in the Specification. *Id.* Other than providing examples of the claimed limitation, Appellants do not provide or argue for a particular definition of the claim terms. Appellants also do not contest the Examiner’s finding that the term “divided” is not limited to “cutting or tearing.” This finding appears consistent with Appellants’ Specification that states “[t]he division of the support means into individual cable runs or individual cable strand runs can be carried out manually, for example by cutting or tearing, or it can be constrainedly effected.” Specification p. 8, ll. 8–10 (emphasis added).

Appellants then discuss each of the cited references individually, but do not address the combination of teachings relied upon in the rejection. One cannot show nonobviousness by attacking references individually where the rejection is based on the combination of references. *See In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

For these reasons we are not informed of error in the Examiner’s rejection of claims 54 and 68.

Claims 58 and 59

Claims 58 and 59 both depend from claim 57 and are argued together. We select claim 58 as representative. Claim 58 adds: “said support has a loose run and a supporting run and at least one of a wedge adhesion surface

and a wedge pocket adhesion surface disposed closer to said loose run of said support has a surface roughness increased relative to a rest of a surface of said wedge pocket.”

The Examiner finds that Ericson teaches “roughening the wedge and jaw/pocket surfaces that contact the support (22) for the purpose of specifically increasing friction with the support (22)” and that it “would have been obvious to roughen only those surfaces of the wedge and/or jaw/pocket that actually contact the support and leave those surfaces that do not contact the support . . . smooth and unroughed for the purpose of reducing the amount of roughening work/cost/time.” Answer 9.

Appellants respond that the relative surface roughness is critical. Appeal Br. 22. Appellants cite to the specification which states:

This is an advantage, since in the case of loading of the support means the pressing force, which arises through drawing-in of the wedge, of the wedge on the wedge pocket increases to particular extent the possible supporting force in the support means on the side of the wedge pocket adhesion surface or wedge adhesion surface, since this surface has an increased roughness or has transverse flutes or transverse grooves, whereby the maximum possible support means force increases as a consequence of the deflection around the wedge. The force is in that case continuously increased, since the initial force on the side of the loose run is built up. The loose run of the support cable is securely held and a high supporting force can be transmitted. Moreover, the wedge pocket sliding surface on which the support means slides mainly during the loading process is formed with an appropriately lesser degree of roughness, which counteracts damage of the support means, since the surface thereof is not harmed. An economic support means end connection with a high load-bearing capability can be provided by means of this invention.

Id. (quoting Specification p. 5, ll. 12–25).

But, this purported evidence of criticality does not have the same scope as the claims. The cited portion of the Specification discusses the relative roughness of a portion of the wedge or wedge pocket as compared to another portion of the wedge or wedge pocket where both portions contact the support. The claimed relative roughness does not require contact with the support. Thus, the scope of the claims and the scope of the cited benefit are not consistent. For this reason we are not informed of error in the rejection of claim 58. For this same reason we are not informed of error in the rejection of claim 59.

DECISION

The Examiner's rejection of claims 44, 45, 50, 51, 53–55, 57–59, 64, 65, and 67–70 is affirmed.

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).

AFFIRMED