UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/375,888	07/31/2014	Masashi Tamura	MIT00650P10130US	6996

32116 7590 11/13/2018

WOOD, PHILLIPS, KATZ, CLARK & MORTIMER
500 W. MADISON STREET
SUITE 1130
CHICAGO, IL 60661

EXAMINER
BUSE, MARK KENNETH

ART UNIT	PAPER NUMBER
3654	

NOTIFICATION DATE	DELIVERY MODE
11/13/2018	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@woodphillips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MASASHI TAMURA, HISATO ISHIGURO and HIROSHI MATSUMURA
(Applicant: Mitsuboshi Belting Ltd.)

Appeal 2017-011355
Application 14/375,888
Technology Center 3600

Before STEVEN D.A. McCARTHY, MICHAEL W. KIM and LISA M. GUIJT, *Administrative Patent Judges*.

McCARTHY, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant[1] appeals under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 1–6 under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Tanaka (JP H10-184812 A, publ. July 14, 1998) and Takahashi (US 6,419,605 B1, issued July 16, 2002). We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

---

[1] The Appellant identifies Mitsuboshi Belting Ltd. of Kobe City, Hyogo Prefecture, Japan, the applicant under 37 C.F.R. § 1.46, as the real party in interest. (*See* "Appellant's Brief on Appeal," dated Apr. 21, 2017, at 1).

Claim 1 is the sole independent claim on appeal:

> 1. A V-ribbed belt having an inside and an outside, the V-ribbed belt comprising:
>
> an extension layer that forms a back surface of the V-ribbed belt,
>
> a compression layer provided on one surface of the extension layer and having plural ribs extending parallel to each other along a longitudinal direction of the V-ribbed belt,
>
> a load carrying cord embedded between the extension layer and the compression layer along the longitudinal direction of the V-ribbed belt,
>
> the load-carrying cord having an outer peripheral portion with a rib side and an opposite side spaced from each other in a direction between the inside and outside of the V-ribbed belt,
>
> wherein a distance from the outer peripheral portion of the load carrying cord on the rib side to a tip portion of the rib is from 2.0 to 2.6 mm, and a distance from the outer peripheral portion of the load carrying cord on the rib side to a bottom portion of the rib is from 0.3 to 1.2 mm.

Tanaka describes a V-ribbed belt *1* including load carrying cord *2* embedded between a compression layer *4* and an expansion layer along a longitudinal direction of the V-ribbed belt. The compression layer has a plural rib parts *7* parallel to each other along a longitudinal direction of the V-ribbed belt *1*. (*See* Tanaka, para. 9). Tanaka does not appear to disclose the distance from outer rib portion of the load carrying cord on the rib side to a tip portion of the rib, however.

Takahashi describes V-ribbed belt "characterized in that the dimension from a rib-side end of the tension member [that is, the load carrying cord *2* as depicted in Figure 1] to a rib top is set in the range of 3.0 to 4.0 mm." (Takahashi, col. 2, ll. 8–11; *see also id*, col. 3, ll. 63–65 & Fig.

1). Takahashi teaches reducing vibration and noise by increasing the flexural rigidity of the belt. (*See* Takahashi, col. 1, ll. 48–52). Takahashi additionally teaches that, if "the dimension from the rib-side end of the tension member to the rib top is below 3.0 mm, the flexural rigidity cannot sufficiently be enhanced." (*See* Takahashi, col. 2, ll. 15–17).

The Examiner concludes that it would have been obvious "to optimize the rib height dimension from (3.0 to 4.0 mm) to 2.0 – 2.6 mm for reduced flexural rigidity, as taught by Takahashi et al. (col. 2, lines 8–22), for the purpose of reducing torque requirements of the driving pulley for improves system energy efficiency." (Final Office Action, mailed Nov. 4, 2016 ("Final Act."), at 3 & 4). The Appellants assert that Takahashi teaches away from the proposed optimization. (*See* "Appellant's Brief on Appeal," dated Apr. 21, 2017 ("App. Br."), at 3 & 4). Takahashi teaches designing a V-ribbed belt for a motor vehicle having a distance from the outer peripheral portion of the load carrying cord on the rib side to a tip portion of the rib in a range from 3.0 to 4.0 mm. Takahashi criticizes belts having smaller distances as lacking sufficient flexural rigidity to resist generating excessive noise. Appealed claim 1 recites a V-ribbed belt having corresponding distance in the range of 2.0 to 2.6 mm. The Specification teaches that a distance in this range decreases torque loss and contributes to an improvement in fuel efficiency in use. (*See*, *e.g.*, Spec., para. 12). Such an advantage, however, is nowhere disclosed in Takahashi.

We recognize that "a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine." *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006). In the particular case, the Examiner proposes that it

would have been obvious to depart from the range of distances taught in Takahashi in order to optimize torque loss at the potential cost of increased noise generation. (*See* Final Act. 3). This reasoning is not persuasive because the teachings of the Appellant's Specification, as well as the teachings of Tanaka and Takahashi, indicate that changes in the dimensions of V-ribbed belts may affect various properties of the belt, possibly in unpredictable ways. (*See* App. Br. 7). The Examiner, who bears the burden of proving facts underpinning any rejection of the claims, has not shown that one of ordinary skill in the art would have understood that reducing the distance recited in the claim would have reduced torque loss; or that the proposed trade-off would have been recognized as desirable. This is especially so given that the purported advantage is only present in the Appellant's Specification, while the indicated disadvantage is explicitly disclosed in the art. Absent such proof, we agree with the Appellant that the Examiner has not shown that all elements of the claimed V-ribbed belt would have been obvious.

DECISION

We REVERSE the Examiner's decision rejecting claims 1–6.

More specifically, we do not sustain the rejection of claims 1–6 under § 103(a) as being unpatentable over Tanaka and Takahashi.

REVERSED