

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

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM H. SHEPARD and PAUL R. ERICKSON

Appeal 2007-0254
Application 10/732,614
Technology Center 1700

Decided: February 28, 2007

Before BRADLEY R. GARRIS, THOMAS A. WALTZ, and
CATHERINE Q. TIMM, *Administrative Patent Judges*.
GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from a final rejection of claims 1-6, 8-10, and 12-19. We have jurisdiction under 35 U.S.C. § 6.

We AFFIRM.

Appellants invented a sheet-form material having first and second sides that carry respective fastener elements (Specification 15;

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Figs. 10-10A). This sheet-form material is defined by independent claim 1 as follows:

1. A sheet-form material having first and second sides that carry respective fastener elements, fastener elements on the first side comprising a non-woven web of entangled fibers of substantial tenacity having a basis weight of between 1.8 to 2.5 ounces per square yard, fastener elements on the second side having molded stems extending from a base layer of resin in which the fibers of the non-woven web are embedded, wherein fibers of the web are exposed on the first side for engagement with the fastener elements of the second side.

The prior art set forth below is relied upon by the Examiner as evidence of obviousness:

Kennedy	US 5,260,015	Nov. 9, 1993
Hamilton	WO 94/02091	Feb. 3, 1994
Lawless	US 5,891,547	Apr. 6, 1999

Claims 1-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lawless in view of Kennedy, and claims 8-10 and 12-19 stand correspondingly rejected over these references and further in view of Hamilton.¹

The Examiner finds that claim 1 distinguishes from the nonwoven fabric with base layer embodiment of Lawless' hook and loop fastener by requiring molded stems (i.e., hooks) extending from the opposite side of the base layer in which the nonwoven web fibers are embedded (Answer 3-4). The Examiner concludes that it would have been obvious for one with

¹ The Appellants have advanced the same argument against each of these rejections. Therefore, all appealed claims will stand or fall in accordance with the success or failure of this argument.

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ordinary skill in this art to provide the opposite side of Lawless' base layer with molded stems or hooks via the process taught by Kennedy, motivated by the desire to obtain a known unitary back-to-back hook and loop fastener product (Answer 4).

The Appellants argue that the Examiner's conclusion of obviousness is incorrect for the following reason:

[O]ne of ordinary skill in the art at the time of the invention would not have reasonably expected to successfully form a dual-sided fastener using Kennedy's process for forming a fastener product with exposed, engageable loops with the substitution of a non-woven web of entangled fibers as taught by Lawless with a basis weight of about 1.8 to 2.5 ounces, for Kennedy's dense loop web. Instead, the teachings of Kennedy would have led someone of ordinary skill in this art, at the time of the invention, to expect that such light non-woven materials would be flooded by the hook-molding process to such an extent that they would not remain engageable.

(Br. 9, first full para.).

Issue

Would one with ordinary skill in this art have reasonably expected success in combining the teachings of Lawless and Kennedy in the manner proposed by the Examiner?

Findings of Fact

Appellants invented a sheet-form material comprising a base layer 82 having hooks or stems integrally molded on a first side thereof and having nonwoven loop material 84 *in situ* bonded on a second side to thereby form back-to-back straps A and B of hooks and loops that are releasably engageable with each other (Specification 15:26-31; Figs. 10-10A). Advantageously, the nonwoven material is laminated *in situ* with the hook material using a layer of resin that forms the base of the hook material to bond directly to the nonwoven material, as generally taught by Kennedy in U.S. Patent 5,260,015 (Specification 19:7-9; Fig. 11).

This ‘015 patent is the Kennedy reference applied in the rejection under review.

Lawless discloses a hook and loop fastening device comprising a non-woven fabric of the type claimed by Appellants which may be adhered or laminated to a backing layer (Abstract; col. 5, ll. 46-52; col. 6, ll. 26-34).

Kennedy discloses a hook and loop fastener having hooks and loops on opposite sides of a back-to-back product such as a backstrap wherein the hooks and loops are laminated together via an intermediate layer of plastic (col. 6, ll. 38-51; Fig. 8). The hook and loop fasteners of Kennedy are made using a hook-molding and laminating process (Fig. 2). Kennedy teaches that this laminating process may be used with loop fasteners in the form of nonwoven fabric and that the nonwoven fabric may be light or heavy, thick or thin, dense or open (col. 5, ll. 46-59). Additionally, Kennedy teaches:

By carefully selecting the fibrous nonwoven web, the plastic for forming the fastener and the operating conditions of the process; it is possible to generate a wide range of products with different degrees of fibers projecting from the surface of the plastic thus providing a wide variety of products directed to many different applications.

(col. 6, ll. 6-14).

Principles of Law

Obviousness under 35 U.S.C. § 103 does not require absolute predictability of success. In re O'Farrell, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). For obviousness under § 103, all that is required is a reasonable expectation of success. *Id.*

Analysis

The Appellants argue that “the teachings of Kennedy would have led someone of ordinary skill in this art, at the time of the invention, to expect that such light non-woven materials [i.e., of the type taught by Lawless and defined in appealed claim 1] would be flooded by the hook-molding process [of Kennedy] to such an extent that they would not remain engageable” (Br. 9).

However, this argument is contradicted by Kennedy’s express teaching that his process may be used with nonwoven fabrics which are light or heavy, thick or thin, dense or open (col. 5, ll. 58-59). The Appellants’ argument also is contradicted by Kennedy’s teaching that his process may be used to generate a wide range and variety of products by carefully selecting the fibrous nonwoven web, the plastic for forming the fastener, and the

operating conditions of the process (col. 6, ll. 6-14). Finally, Appellants' argument is contrary to their own disclosure which expressly teaches making the claimed material using Kennedy's process with nonwoven fabrics or webs of the type taught by Lawless and defined by appealed claim 1 (*compare* Appellants' Fig. 1 disclosure with Kennedy's Fig. 2 disclosure).²

An artisan would have reasonably believed that the nonwoven fabrics of Lawless would be successfully laminated to molded hooks with the process of Kennedy in view of Kennedy's teaching that his process may be practiced with nonwoven fabrics that are light or heavy, thin or thick, dense or open. Specifically, the artisan would have reasonably expected that flooding of Lawless' nonwoven fabric would be avoided by appropriately selecting the result-effective parameters taught by Kennedy such as the plastic for forming the fastener and the operating conditions of the process. This determination is reinforced by the fact that Appellants' Specification explicitly refers to Kennedy as teaching a process for making the here-claimed material.

We are convinced by these circumstances that a reasonable expectation of success exists for the Examiner's proposed combination of the Lawless and Kennedy teachings. Therefore, the record before us, on

² At least indirectly, this argument militates for a conclusion that the Specification would not enable an artisan to make the claim 1 material with Kennedy's process. Therefore, if Appellants adhere to their argument in any future prosecution that may occur, the Examiner should consider rejecting the claims under 35 U.S.C. § 112, 1st ¶, as being based on a disclosure which fails to satisfy the enablement requirement.

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balance, establishes an unpersuasively-rebutted prima facie case of obviousness with respect to each of the Examiner's rejections.

Conclusion of Law

Based on the record of this appeal, one with ordinary skill in this art would have had a reasonable expectation that the nonwoven fabrics of Lawless would be successfully laminated to molded hooks using the process taught by Kennedy in the manner proposed by the Examiner.

Order

The decision of the Examiner rejecting claims 1-6, 8-10, and 12-19 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)(1)(iv).

AFFIRMED

clj

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