

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* A. ROBERT SPITZER

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Appeal 2007-2441  
Application 10/276,945  
Technology Center 3700

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Decided: March 27, 2008

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Before TERRY J. OWENS, JENNIFER D. BAHR, and DAVID B.  
WALKER *Administrative Patent Judges*.

OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellant appeals from a rejection of claims 1-4, 6-12, 23 and 24.  
Claims 5, 13-22 and 25-32 have been canceled.<sup>1</sup>

THE INVENTION

The Appellant claims a hand pad and method for protecting a median  
nerve. Claim 1 is illustrative:

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<sup>1</sup> Appellant's counsel presented oral argument on March 13, 2008.

1. A hand pad apparatus for protecting a median nerve comprising:
  - protecting means for preventing the application of pressure and vibration to the median nerve, said protecting means including parallel cushion portions defining a recess therebetween, said recess overlying the median nerve, and
  - recess maintaining means including a layer of rigid material disposed about said protecting means proximate to said recess that limits lateral expansion of the protecting means into said recess and maintains said recess overlying the median nerve upon the application of pressure,said apparatus being capable of absorbing shock and dampening vibration to the median nerve.

#### THE REFERENCE

Eberbach

US 5,810,753

Sep. 22, 1998

#### THE REJECTIONS

The claims stand rejected over Eberbach as follows: claims 1, 2, 6-12, 23 and 24 under 35 U.S.C. § 102(b), and claims 3 and 4 under 35 U.S.C. § 103.<sup>2</sup>

#### OPINION

We affirm the Examiner's rejections.

Rejection under 35 U.S.C. § 102(b)

Eberbach discloses "a glove adapted to be worn on the hand, distal forearm and wrist of a user for increased comfort and support" (col. 1, ll. 6-7). The glove comprises a sleeve "in a generally cylindrical configuration when worn on the hand, distal forearm and wrist of a wearer and with a

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<sup>2</sup> The Examiner relies upon US 2006/0026738 A1 to Kleinert in the rejection of claims 3 and 4 (Ans. 11). Because Kleinert is not included in the statement of the rejection it is not properly before us and, therefore, has not been considered in reaching our decision. *See In re Hoch*, 428 F.2d 1341, 1342 n.3 (CCPA 1970).

central axis adapted to be located in essentially parallel alignment with the median nerve of a wearer” (col. 3, ll. 8-12). The glove also includes load-bearing support members (14, 15) that “are fabricated of a flexible and resilient material and have center lines positioned essentially parallel with each other and the axis of the sleeve” (col. 3, ll. 34-37) and have an elongated space (16) between them (col. 4, ll. 50-53). The sleeve preferably is an elastic material, preferably spandex, and the load-bearing support members preferably are closed-cell polyurethane foam (col. 5, ll. 28-29, 49-51; col. 6, ll. 11-14; col. 7, ll. 23-29). Eberbach teaches that

when properly positioned on a wearer, the support members will be laterally offset from the median nerve of a wearer by between about  $\frac{3}{16}$  and  $\frac{3}{8}$  inches. The support members having widely spaced exterior edges **54** and closely spaced interior edges **56** at a distance of between about  $\frac{3}{8}$  and 1 inch and are separated whereby, when properly positioned on a wearer, the support members will be laterally offset from the median nerve of the wearer [col. 5, l. 64 – col. 6, l. 4].

That lateral offset and a load-bearing support member height of at least  $\frac{3}{16}$  inch allows for proper offloading of the median nerve (col. 8, ll. 1-10). Preferably the load bearing support members are held in place by securing them in a cloth pocket (84) by stitching (86) (col. 6, ll. 59-64; col. 7, ll. 4-5; figs. 2, 3). The sleeve and pocket preferably are made of the same material, but have stretch orientations at right angles to each other; the sleeve has greater stretch in the circumferential direction whereas the pocket material has greater stretch in the axial direction (col. 7, ll. 6-16). “This is to limit separation of the support members to insure their continued orientation in the proper anatomical position on the user” (col. 7, ll. 9-11). In another embodiment the separation of the center line of the load-bearing members is about  $1\frac{1}{4}$  inch and the pocket segment is sewn with simple zigzag stitching

(90) to limit the lateral displacement of the load-bearing members (col. 7, ll. 17-21). Eberbach states that “[b]y providing elements for off-loading forces from the median nerve to adjacent areas, areas that are less susceptible to pressure injury, it has been found possible to prevent and relieve the symptoms of carpal-tunnel syndrome and median nerve injury” (col. 1, ll. 23-27).

The Appellant argues that “there is no mention or suggestion in Eberbach of the applicability of its device to protect against vibration or shock” (Br. 9).

Eberbach discloses that 1) the purpose of Eberbach’s invention is to offload the median nerve to adjacent areas that are less susceptible to pressure injury, thereby preventing and relieving the symptoms of carpal-tunnel syndrome, 2) carpal-tunnel syndrome is believed to occur from repetitive stress trauma, and 3) it is believed in the art that “frequent movement of the hand, excessive vibrations or other such trauma will result in disfunction of the median nerve” (col. 1, ll. 10-30). That disclosure would have indicated to one of ordinary skill in the art that Eberbach’s glove is effective for relieving the symptoms of carpal-tunnel syndrome by dampening vibration to the median nerve and, in the same manner, absorbing shock to the median nerve.

The Appellant argues that “the pocket and stitching of Eberbach do not constitute a recess maintaining means that includes a layer of rigid material that limits lateral expansion of the protecting means into the recess and maintains the recess overlying the median nerve” (Br. 9-10).

During patent prosecution, claims are to be given their broadest reasonable interpretation consistent with the Specification, as the claim

language would have been read by one of ordinary skill in the art in view of the Specification. *See In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989); *In re Sneed*, 710 F.2d 1544, 1548 (Fed. Cir. 1983). The Appellant's Specification states that "[t]he rigid material includes, but is not limited to, plastic, harden [sic] rubber, metal, wood, cloth, thread, the cushion portion **24** itself, and any other similar material that prevents the reduction of the size of the recess **14** over the median nerve **16**" (Spec. 11:4-7). Thus, "rigid material", as that term is most broadly construed in view of the Specification, includes Eberbach's cloth and stitching (col. 6, ll. 59-64; col. 7, ll. 17-21).

The Appellant's claims require that the recess maintaining means limits lateral expansion, but the claims do not require that the recess maintaining means prevents all lateral expansion. The claims require that the lateral expansion must be prevented sufficiently to maintain a recess overlying the median nerve upon application of pressure (claim 1) or shock and vibration (claim 23), but the claims do not require that the recess must maintain its original size or shape or must be maintained upon application of all degrees of pressure or shock and vibration. The claims permit lateral expansion of the protecting means to some extent, provided that a recess of some size and shape remains overlying the median nerve upon the application of at least a small amount of pressure (claim 1) or shock and vibration (claim 23). Eberbach's disclosures that stitching limits the lateral displacement of load-bearing members 14 and 15 (col. 7, ll. 17-21), and that load-bearing members 14 and 15 offload the median nerve and thereby prevent and relieve the symptoms of carpal-tunnel syndrome and median nerve injury (col. 1, ll. 23-30; col. 8, ll. 1-10), indicate that the lateral expansion of load-bearing members 14 and 15 is limited sufficiently that a

recess remains above the median nerve after application of pressure or shock and vibration that is of sufficient size for the desired offloading of the median nerve and prevention and relief of the symptoms of carpal-tunnel syndrome to be obtained.

The Appellant argues, in reliance upon an opinion in a Declaration by Giancarlo (filed Aug. 15, 2006), that “while the stitching of Eberbach may prevent shifting of the load-bearing member per se into the recess, the stitching would not prevent the resilient and compressible material contained in the load-bearing members from deforming and spreading over the stitching into the channel under significant pressure, such as shock, or vibration” (Br. 11).

Giancarlo provides no evidentiary support for that opinion. Eberbach’s preferred load-bearing support member material is closed-cell polyurethane foam (col. 5, ll. 49-51), and the Appellant’s cushion material 24 can be urethane and can be foam (Spec. 9:1-5). Hence, although the Appellant’s Specification does not specifically disclose polyurethane foam, the Appellant’s disclosure that the cushion material can be urethane and can be foam indicates, prima facie, that Eberbach’s polyurethane foam is sufficiently similar to the Appellant’s cushion material that it resists deformation to the extent required by the Appellant’s claims, i.e., sufficiently to maintain some amount of recess overlying the median nerve upon application of at least a small amount of pressure (claim 1) or shock and vibration (claim 23). That prima facie evidence is sufficiently strong that it outweighs Giancarlo’s unsupported opinion.

The Appellant argues, in reliance upon Giancarlo’s opinion in the Declaration, that the reduced circumferential direction stretch of Eberbach’s

pockets for the load-bearing support members relative to the sleeve (col. 7, ll. 6-14) would not be sufficient to prevent deformation of the load-bearing material into the recess containing the median nerve (Br. 11).

As pointed out above, the Appellant's claims permit some deformation of the protecting means, provided that at least a small amount of recess overlying the median nerve is maintained upon application of at least a small amount of pressure (claim 1) or shock and vibration (claim 23). It appears that the greater stretch of Eberbach's pockets in the axial direction and reduced stretch in the circumferential direction (col. 7, ll. 6-9) would result in reduced movement of the load-bearing support members toward each other in the circumferential direction. Thus Eberbach indicates, *prima facie*, that some recess will be maintained between the load-bearing support members upon application of at least a small amount of pressure or shock and vibration. Giancarlo's unsupported opinion is not sufficiently strong to outweigh that *prima facie* evidence.

The Appellant argues, in reliance upon the Giancarlo Declaration, that Eberbach's disclosure relates to the force applied to the hand when laying the wrist on a table is combined with finger motion (Br. 13).

Eberbach considers repetitive motion of the fingers in combination with direct pressure on the median nerve caused by laying the wrist upon a table or keyboard to be a more significant problem with respect to carpal-tunnel syndrome than frequent movement or excessive vibrations of the hand (col. 1, ll. 9-19). Eberbach's disclosure that his glove prevents and relieves the symptoms of carpal-tunnel syndrome (col. 1, ll. 22-30) indicates that the glove is effective as to not only what Eberbach considers to be the more significant problem, but also the other problems, i.e., frequent

movement or excessive vibrations of the hand. Hence, we are not persuaded by Giancarlo's interpretation of Eberbach as being limited to carpal-tunnel syndrome symptoms caused by the combination of finger motion and laying the wrist on a table (Decl. 4).

The Appellant argues that the mere probability or possibility that Eberbach's pockets and stitching can act as a recess maintaining means to limit lateral expansion of the load-bearing members is not sufficient to establish that they inherently do so (Br. 14-15).

As stated by the Federal Circuit in *In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990), "when the PTO shows sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." The above-discussed disclosures by Eberbach provide a sound basis for believing that Eberbach's glove is capable of maintaining at least a small recess overlying the median nerve upon application of at least a small amount of pressure or shock and vibration. Hence, the burden of providing evidence to the contrary has shifted to the Appellant, and the Appellant has not carried that burden. As pointed out above, the unsupported opinions by Giancarlo are not sufficient for outweighing the prima facie evidence of anticipation of the claimed invention by Eberbach.

For the above reasons we are not persuaded of reversible error in the rejection under 35 U.S.C. § 102(b).

#### Rejection under 35 U.S.C. § 103

The Appellant argues that there is no suggestion in Eberbach of the Appellant's rigid recess maintaining means (Br. 21-25).

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As discussed above regarding the rejection under 35 U.S.C. § 102(b), such a recess maintaining means is disclosed by Eberbach. The Appellant does not argue the limitations added in claims 3 and 4.

Accordingly, we are not convinced of reversible error in the rejection under 35 U.S.C. § 103.

#### DECISION

The rejections over Eberbach of claims 1, 2, 6-12, 23 and 24 under 35 U.S.C. § 102(b), and claims 3 and 4 under 35 U.S.C. § 103 are 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).

AFFIRMED

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