

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* TODD A. HAGAN, CHRISTINE POTTER,  
MICHAEL C. BOWERS, and RODNEY MILBOURNE

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Appeal 2008-0166  
Application 10/931,604  
Technology Center 3700

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Decided: April 15, 2008

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Before JENNIFER D. BAHR, DAVID B. WALKER, and  
MICHAEL W. O'NEILL, *Administrative Patent Judges*.

BAHR, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Todd A. Hagan et al. (Appellants) appeal under 35 U.S.C. § 134 from the Examiner's Final Rejection mailed September 13, 2006. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002). We presume the rejections of all of the pending claims finally rejected, i.e., claims 1-16, 18,

19, and 23, were appealed, because the Notice of Appeal filed November 13, 2006, does not specify otherwise. Appellants in their Appeal Brief filed March 23, 2007, however, expressly appeal the final rejections of only claims 1-9 (Appeal Br. cover sheet; Appeal Br. 4). Accordingly, we dismiss the appeal as to claims 10-16, 18, 19, and 23. 37 C.F.R. § 41.37(b) (2007).<sup>1</sup> The appeal continues as to the remaining claims 1-9.

### *The Invention*

Appellants' claimed invention is directed to housings for devices such as power tools, and more particularly, to "a housing having an overmold portion in which the overmold portion performs an auxiliary function" (Specification 1, ¶ 2). Claim 1, the only independent claim involved in this appeal, reads as follows:

1. An article comprising a housing structure and a secondary structure that are fixedly but removably coupled to one another, one of the housing structure and the secondary structure having a structural portion and an overmold portion that is formed from a resilient material and molded onto at least a portion of the structural portion such that the overmold portion is permanently and fixedly coupled to the structural portion, the overmold portion defining a seal portion that engages the other one of the housing structure and the secondary structure to form a seal between the structural portion and the other one of the housing structure and the secondary structure when the housing structure and the secondary structure are coupled to one another.

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<sup>1</sup> We presume these claims will be canceled by direction of the Examiner, as prescribed by MPEP §§ 1215.03 and 1215.04.

*The Rejections*

Appellants seek review of the Examiner's rejections of claims 1-3, 5, and 7 under 35 U.S.C. § 102(b) as anticipated by Camp (US 5,857,241, issued January 12, 1999) and claims 1-9 under 35 U.S.C. § 102(b) as anticipated by Yano (US 5,640,741, issued June 24, 1997).<sup>2</sup>

THE ISSUES

The first issue presented in this appeal is whether Camp discloses an overmold that forms a seal between two structural components, as required in claim 1. This issue turns on whether end portion 24 of Camp's overmolded outer grip 20 inherently forms a seal with flange 25 at the base of extension pole 9 when extension pole 9 is screwed down tight into the threaded opening 7 of handle 1.

The second issue presented in this appeal is whether Yano discloses an overmold that forms a seal between two structural components, as required in claim 1. This issue turns on whether soft shell 2 of soft grip 1 contacts handle portion 4 along the edge portion so as to form a seal with handle portion 4 (presumably at step portions S<sub>1</sub> and S<sub>2</sub>).

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<sup>2</sup> Appellants do not appeal the rejections of claims 10-16, 18, 19, and 23 under 35 U.S.C. § 112, first and second paragraphs, and under § 102(b) as anticipated by Yano set forth in the Final Rejection mailed September 13, 2006.

### FINDINGS OF FACT

- FF1. The ordinary and customary meaning of “seal” is “a tight closure, as against the passage of air or water.” *Webster's New World Dictionary* 1283 (David B. Guralnik ed., 2<sup>nd</sup> Coll. Ed., Simon & Schuster, Inc. 1984).
- FF2. Appellants describe functioning of isolators 172 and bumper members 170 of overmold member 102 as a “seal” within the context of enclosing a space 188 filled with grease or other suitable lubricant (Specification 10, ¶ 53). Specifically, the isolators 172 seal the interface between the end cap shell 100 and the motor assembly 14, and bumper members 170 seal the rear apertures 144 in the end cap shell 100 (*id.*)
- FF3. Camp teaches a handle 1 for a paint roller or other hand tool having an outer grip made of a soft rubber-like material (col. 1, ll. 4-6). The outer end 6 of the handle 1 is provided with an internally threaded bore 7 to which the tip 8 of an extension pole 9 may be threadedly connected (col. 2, ll. 55-57).
- FF4. Camp’s handle 1 includes an inner core of “a suitably rigid plastic material” (col. 2, ll. 59-60). An outer grip 20 “of a relatively soft thermoplastic elastomer material” is “overmolded around the inner core 10” to provide the handle with a softer feel and more comfortable gripability (col. 3, ll. 14-18). The outer grip 20 extends substantially the entire length of the inner core 10 and part way around both end walls 21 and 22 of the inner core, leaving exposed the internally threaded bore 7 (col. 3, ll. 18-22).

- FF5. The end portion 24 of Camp's outer grip 20 extending part way around end walls 21, 22 "will act as a locking washer, resisting unscrewing of the extension pole 9 from the threaded opening when the extension pole is screwed down tight and a flange 25 at the base of the extension pole threads 26 comes into contact with the end portion 24" (col. 3, ll. 32-38; fig. 6).
- FF6. Camp does not expressly teach that end portion 24 of outer grip 20 forms a seal with flange 25 of extension pole 9.
- FF7. Yano teaches a handle H of a power tool. The handle H has a handle portion 4 formed integrally with the rear portion of the main body M of the power tool and is provided with a soft grip 1 at the rear side thereof. (Col. 2, ll. 29-34.) The handle portion 4 comprises two half members 4a integrally fixed to each other by screws 5 (col. 2, ll. 59-62; fig. 3).
- FF8. Yano teaches that the soft grip 1 comprises a soft shell 2 made from "soft plastic" and a hard shell 3 (col. 2, ll. 43-46). Yano does not mention elastomer as a material for the soft grip.
- FF9. The term "elastomer" is used in scientific and technical literature "as a name for both natural and synthetic materials which are elastic or resilient and in general resemble natural rubber in feeling and appearance." *Marks' Standard Handbook for Mechanical Engineers* 6-165 (Theodore Baumeister et al. eds., 8<sup>th</sup> ed. 1978).
- FF10. Yano's hard shell 3 has two engaging projections 3a received in receiving recesses 4c of handle portion 4. The soft grip 1 is secured to handle portion 4 via screws 7 set in engaging projections 3a and threadedly received in hexagonal nuts 6 held in nut accommodating

spaces  $4e$  of receiving recesses  $4c$ . (Col. 3, ll. 1-11, 45-46, 55-57.) Half members  $4a$  have step portions  $S_1$  and  $S_2$ , respectively, provided with receiving grooves  $4f_1$  and  $4f_2$  for receiving second engaging pieces  $3b_1$  and  $3b_2$  of hard shell 3 when the soft grip 1 is secured to handle portion 4 (col. 3, ll. 17-24; figs. 2 and 3).

FF11. Yano does not expressly disclose that the edges of soft grip 1 form a seal with step portions  $S_1$  and  $S_2$  of handle portion 4. While Yano's Figures 4 and 6 appear to show the edges of soft shell 2 in close abutting relationship with step portions  $S_1$  and  $S_2$ , Yano gives no indication that the edges of soft shell 2 and step portions  $S_1$  and  $S_2$  contact one another or are pressed against one another so as to form a seal at the interface therebetween.

An object of Yano's invention is to provide "a handle of a power tool which is electrically safe for an operator and which can reliably prevent dust or water from getting into the handle portion of the power tool" (col. 1, ll. 34-37). In regard to this objective, Yano (col. 3, ll. 57-67) describes the assembled handle H, with the soft grip 1 completely fixed to the handle portion 4, as follows:

At this time, since the space  $4b$  for electric wires, etc., is completely separated from the receiving recesses  $4c$ , the connecting paths  $4d$ , the nut accommodating spaces  $4e$  and the second receiving grooves  $4f_1$  and  $4f_2$ , the electric wires do not reach the nut accommodating spaces  $4e$  and the grooves  $4f_1$  and  $4f_2$ . Therefore, an electric current never flows in the fastening screw 7 and the soft grip 1 to prevent the operator from being struck by electricity. Dusts or soils or the like do not enter the handle portion 4 from the receiving recesses  $4c$ , the connecting paths  $4d$ , the nut

accommodating spaces  $4e$  and the grooves  $4f_1$  and  $4f_2$ .

Yano's description clearly indicates that the interior of handle portion 4, and in particular the wire accommodating space  $4b$ , is sealed from dust, soils, and water entering through the interface between the handle portion 4 and soft grip 1. Such a seal could be formed at the interface between the two half members  $4a$  of handle portion 4, without any seal between the edges of soft shell 2 and step portions  $S_1$  and  $S_2$ .

#### PRINCIPLES OF LAW

When construing claim terminology in the United States Patent and Trademark Office, claims are to be given their broadest reasonable interpretation consistent with the specification, reading claim language in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004).

Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). It is not necessary that the reference teach what the subject application teaches, but only that the claim read on something disclosed in

the reference, i.e., that all of the limitations in the claim be found in or fully met by the reference. *Kalman v. Kimberly Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983). Under principles of inherency, when a reference is silent about an asserted inherent characteristic, it must be clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991). As the court stated in *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981) (quoting *Hansgirk v. Kemmer*, 102 F.2d 212, 214 (CCPA 1939)):

Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. [Citations omitted.] If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient.

When relying on the theory of inherency, the examiner has the initial burden of providing a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic reasonably flows from the teachings of the applied prior art. *See In re King*, 801 F.2d 1324, 1327 (Fed. Cir. 1986).

## ANALYSIS

### *Claim interpretation*

The Examiner states that in rejecting the claims under 35 U.S.C. § 102, the term “[s]eal” is given its ordinary and plain meaning as known in the art” (Answer 6), but does not articulate the ordinary and plain meaning

of the term “seal” as known in the art. We find that the ordinary and customary meaning of “seal” is “a tight closure, as against the passage of air or water” (FF1). Further, this definition is consistent with Appellants’ description of a seal in their Specification (FF2). Accordingly, we construe the term “seal” in claim 1 as a tight closure, as against the passage of gas or liquid.

***The rejection of claims 1-3, 5, and 7 as anticipated by Camp***

The Examiner contends that “overmold portion 20 defines a seal/isolator portion engaging secondary structure 9 when the housing structure is coupled to the secondary structure; see figure 6” (Answer<sup>3</sup> 4). According to the Examiner, “a relatively soft thermoplastic elastomer material” (FF4) surrounding the threaded opening and acting as a “locking washer” when the extension pole is “screwed down tight” (FF5) “would inherently create a ‘seal’ between a flange 25 of the secondary structure 9 and the overmold end portion 24” (Answer 5-6).

Appellants, on the other hand, point out that Camp does not mention the word “seal” or any variant thereof in describing the end portion 24 (Appeal Br. 5). According to Appellants, the frictional engagement described by Camp for locking the extension pole to the handle “does not necessarily equate to sealing engagement as the latter is highly dependent upon the load (force) that is applied to a seal, the surface finishes of the components that are being sealed, etc.” (Appeal Br. 6).

We agree with Appellants that Camp’s description of the end portions 24 of the outer grip 20 and the flange 25 of the extension pole 9 is not sufficient to reasonably support the Examiner’s determination that the end

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<sup>3</sup> We refer in this opinion to the Examiner’s Answer mailed May 30, 2007.

portions 24 inherently form a seal with the flange 25 of the extension pole 9, as required in independent claim 1. Camp does not expressly describe any sealing between end portions 24 and flange 25 (FF6). Nor does Camp provide any teaching that would lead a person of ordinary skill in the art to infer that Camp intends to form a seal, i.e., a tight closure against the passage of gas or liquid, at this location. As pointed out by Appellants, paint rollers typically are not placed in paint in such a manner that the handle is submerged in paint; accordingly, one of ordinary skill in the art would not recognize that the overmolded outer grip 20 of Camp's handle 1 necessarily forms a seal between two structures (Appeal Br. 6). While the tight threading of extension pole 9 into the threaded bore 7 of inner core 10 of Camp's handle 1 (FF5) *might* achieve some degree of sealing against the "relatively soft thermoplastic elastomer material" of the end parts 24 of outer grip 20 (FF4), we cannot conclude that a person of ordinary skill in the art would have recognized that this would necessarily be the case. The Examiner has not discharged the initial burden of providing a basis in fact and/or technical reasoning to reasonably support the determination that the end parts 24 of outer grip 20 necessarily define a seal portion that engages the extension pole 9 to form a seal between the extension pole 9 and the handle 1 when the extension pole 9 is screwed down tight, as described by Camp. The force necessary to resist unscrewing will not necessarily result in a seal at that interface.

For the above reasons, Appellants' arguments persuade us that the teachings of Camp are insufficient to establish a *prima facie* case of anticipation of the subject matter of claim 1, or of claims 2, 3, 5, and 7 depending from claim 1. The rejection cannot be sustained.

***The rejection of claims 1-9 as anticipated by Yano***

In rejecting claims 1-9 as anticipated by Yano, the Examiner finds that “[o]vermold portion 2 is a thermoplastic elastomer or soft plastic” (Answer 4). The Examiner contends that “overmold portion 2 abuts along the edge of portion 4, see figures 3-6” and reasons that “[b]ecause the two portions are clearly in contact with one another in a completed assembly the overmold portion would necessarily form a seal with the other structure” (Answer 8). For the following reasons, Yano does not support the Examiner’s position.

First, Yano mentions soft plastic but does not mention elastomer as a material for the soft shell 2 of soft grip 1 (FF8). An “elastomer” is a material that is elastic or resilient and in general resembles natural rubber in feeling and appearance (FF9). The Examiner appears to equate soft plastic materials with thermoplastic elastomers (Answer 7-8). A soft plastic, however, is not necessarily elastic or resilient and does not necessarily in general resemble natural rubber in feeling and appearance, and thus cannot be equated with an elastomer.

Second, Yano does not teach that the edges of soft shell 2 contact step portions  $S_1$  and  $S_2$  or are pressed thereagainst so as to form a seal with step portions  $S_1$  and  $S_2$  (FF11). Yano does seek to prevent dust or water from getting into the handle portion 4 of the power tool (*id.*) Yano further teaches that the interior of handle portion 4, and in particular the wire accommodating space  $4b$ , is sealed from dust, soils, and water entering through the interface between the handle portion 4 and soft grip 1. Such a seal could be formed, however, at the interface between the two half members  $4a$  of handle portion 4, without any seal between the edges of soft shell 2 and step portions  $S_1$  and  $S_2$ . *Id.* Yano does not provide any teaching

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from which a person of ordinary skill in the art would recognize or infer that a seal necessarily is formed at the interface between the edges of soft shell 2 and handle portion 4 or that such a seal would necessarily (inherently) result from the assembly of the soft grip 1 to handle portion 4.

For the above reasons, the teachings of Yano are insufficient to establish a prima facie case of anticipation of the subject matter of claims 1-9.

### CONCLUSION

The decision of the Examiner to reject claims 1-9 is reversed. The appeal is dismissed as to claims 10-16, 18, 19, and 23.

REVERSED

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