

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KYUL-JOO LEE

Appeal 2007-4023
Application 10/468,608
Technology Center 3700

Decided: March 19, 2008

Before TERRY J. OWENS, JENNIFER D. BAHR, and LINDA E.
HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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STATEMENT OF THE CASE

Kyul-Joo Lee (Appellant) seeks our review under 35 U.S.C. § 134 of the final rejection of claims 1-3. Claims 1-19 are pending. Claims 18 and 19 have been withdrawn from consideration and are not the subject of this appeal. Claims 1-17 have been finally rejected, but Appellant chose not to contest the final rejections of claims 4-17 (Appeal Br. 4: Status of Claims and 8: Ground of Rejection to be Reviewed on Appeal). 37 C.F.R. § 41.43(c) (2007) states, in pertinent part, “[a]n appeal, when taken, must be taken from the rejection of all claims under rejection which the applicant or owner proposes to contest.” The Examiner was correct in noting that the withdrawal of the appeal as to claims 4-17 operates as authorization to cancel these claims from the application (Ans. 2, citing MPEP § 1215.03). The appeal continues as to the remaining claims 1-3. We have jurisdiction over this appeal under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

The Appellant’s claimed invention is to a portable vacuum packaging machine (Specification 1:4-5). Claims 1-3 are reproduced below.

1. A portable vacuum packaging machine comprising:
 - a body section having disposed therein a vacuum pump and formed on an upper surface

thereof with a handle; and

a head section electrically connected with the body section and having an upper cover part wherein a handle is formed on an upper surface of the upper cover part, a pair of operation switches and a pair of indicator lamps are respectively located at both sides of the handle, and a pressure gauge is located at a side of the handle, and a lower substructure part wherein a vacuum chamber is defined on a lower surface of the lower substructure part, a packing is located on the lower surface and adjacent to edges of the lower substructure part, a gauge installing hole and an air suction hole which communicates the body section and the vacuum chamber with each other via a connection tube, are defined in the lower substructure part, and a heat-fusing portion is formed at a side of the vacuum chamber and on the lower surface of the lower substructure part.

2. The portable vacuum packaging machine as claimed in claim 1, wherein a timer for setting a vacuum pressure applying time and a pressure-adjusting portion for adjusting a vacuum pressure are located on a side surface of the upper cover part of the head section.

3. The portable vacuum packaging machine as claimed in claim 1, wherein a pair of heat-fusing portions are formed at front and rear sides of the vacuum chamber and on the lower surface of the lower substructure part.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Kristen	US 4,941,310	Jul. 17, 1990
Chi	US 5,352,323	Oct. 4, 1994
Levsen	US 5,638,664	Jun. 17, 1997

The Appellant seeks our review of the Examiner's rejection of claims 1-3 under 35 U.S.C. § 103(a) as unpatentable over Chi, Kristen, and Levsen.

ISSUE

The Appellant contends that claims 1-3 are patentable because none of the machines of the prior art are portable, have a vacuum chamber, a packing, or a heat fusing element on the lower surface of the lower substructure part of the head section, or have a handle (Br. 10-11). The Appellant further contends that there is no motivation to combine the prior art to create the claimed portable vacuum packaging appliance (Br. 12).

The Examiner found that Chi discloses the claimed invention, but does not expressly disclose that the packing, heat-fusing portion, and vacuum chamber are located on the same surface; the switches, indicator lamps, and pressure gauge; and the carrying handle for the body and the head section (Ans. 4). The Examiner found that Kristen discloses the packing, vacuum chamber, and heat-fusing portion located on the same lower surface of the head section and also discloses an indicator lamp, vacuum indicator, and switches (*id.*). The Examiner also found that Levsen

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discloses operation switches, a timer, and a pressure gauge (*id.*). The Examiner concluded that it would have been obvious to modify the machine of Chi by incorporating the head section arrangement of Kristen to “provide a more efficient, non-complex and economical apparatus” and the use of switches, indicator lamps, and vacuum gauge as taught by Levsen to “provide an effective means to monitor, control and operate the vacuum sealing apparatus” (*id.*).

The issue before us is whether the Appellant has shown that the Examiner erred in rejecting claims 1-3 as unpatentable over Chi, Kristen, and Levsen.

FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

1. Chi discloses a heat sealing apparatus having a vacuum ejector 4 with a vacuum pump disposed therein and a sealing unit 1 electrically connected with the vacuum ejector 4 (Chi, Fig. 1, col. 1, ll. 53-56).
2. The sealing unit 1 has an upper cover part 11 and a lower substructure part or base 12 (Chi, Fig. 1, col. 1, ll. 57-58).

3. Chi does not disclose a handle formed on the upper surface of the vacuum ejector or a handle on the upper cover part of the sealing unit.
4. Chi also does not disclose a pair of operation switches and a pair of indicator lamps respectively located at both sides of the handle, and a pressure gauge located at a side of the handle.
5. Chi also does not disclose a vacuum chamber defined on a lower surface of the base, a packing located on the lower surface and adjacent to edges of the base, a gauge installing hole which provides for communication between the vacuum ejector and the vacuum chamber via a connection tube, and a heat-fusing portion formed at a side of the vacuum chamber and on the lower surface of the base.
6. Kristen discloses an apparatus for vacuum sealing plastic bags including a hood pivotally mounted on a base, or that can be detached from the base and used as an independent unit for vacuum sealing bags, such as by placing it on a counter top, table, or the like that would provide a suitable support surface therefor (Kristen, col. 2, ll. 27-31 and col. 6, ll. 39-48).
7. The hood 33a includes a vacuum chamber 40a defined in the lower surface of the hood, a continuous elastomeric seal 39a secured to the underside of the hood to extend entirely about the periphery of the vacuum chamber, and a heating element 50a, mounted beneath

the frontal underneath side of the hood that can be activated to form a heat seal across the open end of the bag (Kristen, Fig. 11, col. 6, l. 39 – col. 7, l. 2).

8. Kristen discloses that the apparatus is a portable self-contained unit for use in recreational environments and the like (Kristen, col. 7, ll. 16-19).
9. The apparatus has a vacuum indicator 56 mounted on the hood indicating the vacuum chamber is being evacuated, and a light 57 mounted on the hood to indicate heat sealing (Kristen, Figs. 1 & 11; col. 5, ll. 19-20 and 59-60; and col. 7, ll. 9-11).
10. Kristen also teaches disposing a button 66 on the hood to close the vent hole and cause the vacuum to be drawn, and a button 68 on the opposite end of the hood to energize the heating element (Kristen, Figs. 1 and 11; col. 5, ll. 54-65).
11. Levsen discloses a vacuum packaging apparatus having a base 10 with a vertical control panel 20 on which several controls are provided, including the following: a power button 22 for providing electrical current; a stop button 24 for interrupting an evacuation operation and initiating a sealing operation; an evacuation control element 26 for adjusting the duration of an evacuation operation; a sealing control element 28 for adjusting the duration of a sealing operation; and a negative pressure indicator

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34 for permitting an operator to monitor an evacuation operation (Levsen, Fig. 1, col. 3, ll. 28-40).

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) where in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”)

In *KSR*, the Supreme Court emphasized “the need for caution in granting a patent based on the combination of elements found in the prior art,” *id.* at 1739, and discussed circumstances in which a patent might be determined to be obvious. In particular, the Supreme Court emphasized that “the principles laid down in *Graham* reaffirmed the ‘functional approach’ of *Hotchkiss*, 11 How. 248.” *KSR*, 127 S.Ct. at 1739 (citing *Graham*, 383 U.S.

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at 12 (emphasis added)), and reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* The Court explained:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, §103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.*

The Supreme Court stated that there are “[t]hree cases decided after *Graham* [that] illustrate the application of this doctrine.” *Id.* at 1739. “In *United States v. Adams*, ... [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at 1739-40. “*Sakraida and Anderson’s-Black Rock* are illustrative – a court must ask whether the

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improvement is more than the predictable use of prior art elements according to their established function.” *Id.* at 1740.

ANALYSIS

The Appellant contends that the Examiner erred in the rejection because “[n]ote [*sic*, none] of the devices of Chi, Kristen, or Levsen have been shown to be portable – they are all meant to be standalone devices which do not engage the surface on which they are used” (Br. 10). The Appellant further contends that the Examiner erred because none of the devices of Chi, Kristen, or Levsen have a vacuum chamber, a packing (a.k.a. gasket), and a heat fusing element on the lower surface of the lower substructure part of the head section (Br. 10-11). We disagree.

First, Kristen explicitly teaches that its device is a portable self-contained unit (FF 8) and that in one embodiment, the device is designed so that the hood operates directly on a counter top, table or similar support surface (FF 6). Second, Kristen discloses that its device has a vacuum chamber defined on the lower surface of the hood along with a packing (or seal) and heating element also disposed on the lower surface of the hood (FF 7).

The Appellant is correct in saying that none of the prior art has a carrying handle for the body or head section, but the Examiner relies on Official Notice that it is well known in the art to provide a handle on portable devices (Ans. 4). The Appellant does not challenge the Examiner’s

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assertion that it is well known to use a handle on portable devices. Rather, the Appellant argues that none of the prior art devices are intended to operate as a portable device where the head section is placed over an open portion of a bag on flat surface to form a seal and vacuum seal the bag, and as such, one would not have been motivated to provide handles on the device as claimed (Br. 11-12). We are not persuaded by this argument because, as discussed *supra*, the device of Kristen is intended to operate as a portable device such that the head section operates on a flat surface (FF 6-8). As such, the Appellant's arguments do not persuade us of error in the Examiner's rejection.

The Appellant also argues no motivation to combine because none of the references are aimed at the problem of a portable vacuum packaging appliance, none of them provide features of a portable vacuum packaging appliance, and none of them can be said to render a portable vacuum packaging appliance obvious (Br. 12). Again, the problem with Appellant's argument is that it fails to take into consideration Kristen's disclosure of a portable vacuum packaging apparatus (FF 8). The Appellant has not persuaded us of error in the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) as unpatentable over Chi, Kristen, and Levsen, and we thus sustain the rejection of claim 1.

Claim 2 recites a timer and pressure adjusting portion to allow for adjustments of vacuum application time and vacuum pressure. The Appellant argues that "[t]he Office actions do not explicitly address these

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claimed features” (Br. 12). The Examiner found that Levsen discloses a timer 26 (Ans. 4), and indeed Levsen does disclose this feature (FF 11). The Examiner failed, however, to make any finding as to where the prior art teaches a pressure adjusting portion for adjusting vacuum pressure. The Examiner has failed to set forth a prima facie case of obviousness of the subject matter of claim 2, and we thus do not sustain the rejection of claim 2.

Claim 3 recites a pair of heat-fusing portions formed at front and rear sides of the vacuum chamber and on the lower surface of the lower substructure part. The Appellant argues that the Office Actions do not specifically address the fact that the use of front and rear heat fusing portions allows two seals to be made, thus further reinforcing the vacuum within the sealed bag (Br. 12). Kristen teaches a heat-fusing portion formed at the front side of the vacuum chamber and on the lower surface of the lower substructure part that can be activated to form a heat seal across the open end of the bag (FF 7). The addition of a second heat-fusing portion to the lower surface to create a second seal across the end of the bag, in view of the clear teaching in the art of using a first heat-fusing portion with the same function, does not rise to the level of innovation necessary for patentability. The Appellant’s addition of a second heat-fusing portion to create a second seal to reinforce the vacuum within the sealed bag is nothing more than a predictable variation of the single heat-fusing portion on the hood of Kristen’s device. *See KSR*, 127 S.Ct. at 1740 (an improvement is obvious if it is merely the predictable use of prior art elements according to their

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established functions). Further, the addition of the second heat-fusing portion yields predictable results, *viz*, that the bag is further reinforced by a second seal across its open end. *See id.* at 1739. The Appellant has not persuaded us of error in the Examiner's rejection of claim 3 as unpatentable over Chi, Kristen, and Levsen, and we thus sustain this rejection.

CONCLUSIONS OF LAW

The Appellant has not shown that the Examiner erred in rejecting claims 1 and 3 under 35 U.S.C. § 103(a) as unpatentable over Chi, Kristen, and Levsen. The Appellant has, however, shown error in the Examiner's rejection of claim 2 under 35 U.S.C. § 103(a) as unpatentable over Chi, Kristen, and Levsen.

DECISION

The decision of the Examiner to reject claims 1 and 3 is affirmed, and the decision of the Examiner to reject claim 2 is reversed.

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) (2007).

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AFFIRMED-IN-PART

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