

The opinion in support of the decision being entered today
is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JACK W. ADOLINE and BRUCE J. FONDREN

Appeal 2007-1793
Application 10/911,196
Technology Center 3600

Decided: August 30, 2007

Before MURRIEL E. CRAWFORD, HUBERT C. LORIN, and LINDA E.
HORNER, *Administrative Patent Judges*.

HORNER, *Administrative Patent Judge*.

DECISION ON APPEAL

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STATEMENT OF THE CASE

The Appellants Adoline *et al.* seek our review under 35 U.S.C. § 134 of the final rejection of claims 27, 37, 39, 41, 43, 53, 55, and 57.¹ We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

The Appellants' claimed invention is to a spring system having a spring and rod assembly that can be easily locked and unlocked (Specification 1:2-3). The Appellants' Specification explains that the spring system is useful for facilitating the opening of closure members in motor vehicles and for opening and closing of container lids in industrial applications (Specification 1:5-10). Claims 27 and 43, reproduced below, are representative of the subject matter on appeal (some paragraphing added).

27. A spring system comprising
a housing having an axis and an internal chamber
that includes axially opposite bottom and top ends,
a spring rod coaxial with said axis and at least
partially positioned within said internal chamber and

¹ Claims 27-58 are pending. The Examiner withdrew the rejection of claims 28-36, 38, 42, 44-52, 54, 56, and 58 (Answer 2). The Examiner failed to articulate any rejection of claim 40 in the Final Office Action (dated March 15, 2006) or in the Answer.

having a lower end positioned in said internal chamber and an upper end axially positioned outwardly of said top end,

a guide member positioned in said internal chamber and secured to said spring rod so as to at least partially support said spring rod for reciprocation axially in said housing between retracted and extended positions relative thereto, and

a locking arrangement designed to releasably lock said spring rod to inhibit or prevent axial movement of said spring rod, at least a portion of said locking arrangement positioned outwardly of said top end of said housing, said locking arrangement including a locking sleeve that comprises a one piece upper section, a lower section and a cavity axially positioned in said upper and lower sections, said cavity of said locking sleeve having a shape and size that enables at least a portion of said spring rod to move in said lower section of said locking sleeve, said lower section of said locking sleeve including a plurality of movable legs designed to movably engage at least a portion of said spring rod to at least partially inhibit or prevent axial movement of said spring rod.

43. A method of releasably locking a spring rod of a spring system comprising:

providing a housing having a longitudinal axis and an internal chamber that includes axially opposite bottom and top ends;

providing a spring rod coaxial that is positioned at least partially in said internal chamber of said housing, said spring rod having a lower end positioned in said internal chamber and an upper end positioned outwardly

of said top end;

providing a guide member positioned in said internal chamber of said housing and secured to said spring rod, said guide member supporting said rod member for reciprocation axially in said housing between a retracted and an extended position relative thereto;

providing a locking arrangement that is at least partially secured to said housing, said locking arrangement designed to engage said spring rod to inhibit axial movement of said spring rod, said locking arrangement including a locking sleeve that comprises a one piece upper section, a lower section and a cavity axially positioned in said upper and lower sections, said cavity of said locking sleeve having a shape and size that enables at least a portion of said spring rod to move in said lower section of said locking sleeve, said lower section of said locking sleeve including a plurality of movable legs designed to movably engage at least a portion of said spring rod and to at least partially inhibit or prevent axial movement of said spring rod.

THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Hubweber	US 4,078,778	Mar. 14, 1978
Gottling	US 4,577,732	Mar. 25, 1986

The following rejections are before us for review:

1. Claims 27, 37, 39, 41, 43, 53, 55, and 57 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hubweber.

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2. Claims 27, 37, 39, 41, 43, 53, 55, and 57 stand rejected under 35 U.S.C. § 102(b) as anticipated by Gottling.

ISSUE

The first issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Hubweber. This issue turns on whether Hubweber discloses: at least a portion of a locking arrangement positioned outwardly of a top end of the housing (claim 27), a locking arrangement that is at least partially secured to the housing (claim 43), and at least one spring extending between a guide member and the bottom end of the housing (claim 57).

The second issue before us is whether the Appellants have shown that the Examiner erred in rejecting claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Gottling. This issue turns on whether Gottling discloses a lower end of a spring rod and a guide member positioned in an internal chamber of the housing.

FINDINGS OF FACT

We find the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427, 7 USPQ2d 1152, 1156 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

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1. Hubweber discloses a gas spring comprising a cylinder 1, within which is provided a piston rod 2 with a piston 3 (Hubweber, col. 1, ll. 49-50).
2. Hubweber further discloses a locking arrangement comprised of a wall 4, a collet 7, a spring 9, and a clamping collar 12 (Hubweber, col. 2, ll. 1-6; Fig. 1).
3. In particular, Hubweber discloses that when the pressure within the cylinder 1 is lowered below a predetermined value, the spring 9 presses the wall 4 downwards so that the collet 7 engages the collar 12 and the collet 7 thus frictionally engages the piston rod 2 so that the piston rod 2 is blocked or braked (Hubweber, col. 2, ll. 11-17).
4. Hubweber shows that the cylinder 1 extends from a closed lower end (not shown in the figures) (Hubweber, col. 1, ll. 52-53) to an inwardly offset upper edge which holds a disk 10 (Hubweber, col. 1, l. 68 – col. 2, l. 1).
5. As such, all of Hubweber's braking elements, *viz*, wall 4, collet 7, spring 9, and collar 12, are disposed entirely within the internal chamber of cylinder 1 (Hubweber, Fig. 1).
6. Accordingly, Hubweber does not disclose "a portion of said locking arrangement positioned outwardly of said top end of said housing."
7. Hubweber discloses that collar 12 is axially fixed with respect to the cylinder 1 (Hubweber, col. 2, ll. 5-6).

8. As such, Hubweber's locking arrangement is at least partially secured, via collar 12, to the housing (cylinder 1).
9. Hubweber's locking arrangement includes a locking sleeve (the one-piece collet 7 and wall 4) having an upper section (wall 4) and a lower section (collet 7) (Hubweber, col. 2, ll. 22-23), and contains parts in addition to the locking sleeve, *viz*, collar 12 and spring 9.
10. Hubweber discloses gas pressure below piston 3 to bias piston rod 2 outwardly of cylinder 1 (Hubweber, col. 1, ll. 57-61)
11. As such, Hubweber discloses a spring extending between the guide member (piston 3) and the bottom end of the housing (lower, closed end of cylinder 1).
12. Gottling describes "a piston rod connected to a working piston" (Gottling, col. 1, ll. 14-15).
13. Gottling does not state where the piston is located and does not show the piston positioned in an internal chamber of the housing.
14. Gottling discloses a braking apparatus 10 comprising a housing 12 of a working cylinder 14 (Gottling, col. 2, ll. 54-56).
15. As shown in Figure 1, the housing 12 is closed on one end (shown on the right side of Figure 1), and the piston rod 20 extends through this closed end of the housing.
16. If the piston is attached to the end of piston rod 20 that extends through the closed end of housing 12, then the piston would be positioned outside of the internal chamber of the housing.

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17. As such, Gottling does not disclose a guide member positioned in the internal chamber of the housing.
18. Gottling also does not disclose a lower end of a spring rod positioned in an internal chamber of the housing.

PRINCIPLES OF LAW

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 827 (1987).

ANALYSIS

Rejection of claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Hubweber

The Appellants contend that Hubweber does not anticipate claim 27 because all of the braking elements of Hubweber’s gas spring are fully housed in the internal chamber of the cylinder, and thus Hubweber does not disclose “at least a portion of said locking arrangement positioned outwardly of said top end of said housing,” as recited in claim 27 (Appeal Br. 6). The Examiner responds that the top of Hubweber’s cylinder is defined by the top bushing 12 and thus “[t]he braking elements clearly extend above the bushing” (Answer 4). The Appellants respond that the collar 12 cannot be the top end of the cylinder, because Hubweber’s cylinder 1 extends upwardly from the collar 12 having an inward offset upper edge that holds a disk 10 in place (Reply Br. 2).

We agree with the Appellants. Hubweber discloses a gas spring having a cylinder 1, in which is provided a piston rod 2 with a piston 3 and a locking arrangement (Findings of Fact 1, 2). The locking arrangement locks the piston rod 2 by cooperation of a wall 4, a collet 7, a spring 9, and a clamping collar 12 (Finding of Fact 3). Hubweber's cylinder 1 extends from a closed lower end to an inwardly offset upper edge, such that all of Hubweber's locking arrangement elements are disposed entirely within the internal chamber of cylinder 1 (Findings of Fact 4, 5). Accordingly, Hubweber does not anticipate claim 27 because it does not disclose "a portion of said locking arrangement positioned outwardly of said top end of said housing" as claimed (Finding of Fact 6). Hubweber also does not anticipate dependent claims 37, 39, and 41, which depend from claim 27, for the same reasons provided *supra*.

The Appellants further argue that Hubweber does not anticipate independent claim 37 [sic, 43], because Hubweber's braking elements are not secured to the cylinder (Appeal Br. 6). Claim 37 is not, however, an independent claim, nor does it require the locking arrangement to be secured to the cylinder. Independent claim 43, to which the Appellants may have been referring², is directed to a method of releasably locking a spring rod of a spring system comprising "providing a locking arrangement that is at least partially secured to said housing."³ As we found *supra*,

² The remainder of the paragraph on page 6 of Appeal Brief discussing this distinction between the claimed invention and Hubweber refers to claim 43.

³ Claim 43 does not recite a limitation similar to claim 27 that a portion of the locking arrangement is positioned outwardly of the top end of the housing.

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Hubweber's locking arrangement elements include collar 12 (Finding of Fact 2), which is axially fixed with respect to the cylinder 1 (Finding of Fact 7). As such, Hubweber's locking arrangement is at least partially secured, via collar 12, to the housing (cylinder 1) (Finding of Fact 8). Thus, Hubweber anticipates claim 43.

The Appellants appear to argue that claim 43 limits the locking arrangement to two elements, namely a one piece upper section and a lower section (Reply Br. 2). We disagree with the Appellants' narrow reading of claim 43. Claim 43 is written using the open-ended transitional phrases of "A method ... *comprising*" and "said locking arrangement *including*" Hubweber's locking arrangement includes a locking sleeve (the one-piece collet 7 and wall 4) having an upper section (wall 4) and a lower section (collet 7) as claimed, and further contains parts in addition to the locking sleeve, *viz*, collar 12 and spring 9 (Finding of Fact 9). These additional parts in Hubweber's locking arrangement do not, however, distinguish Hubweber's method from the claimed method. The Appellants did not provide any separate arguments for patentability of dependent claims 53 and 55. As such, these dependent claims fall with claim 43. 37 C.F.R. § 41.50(c)(1)(vii) (2006).

The Appellants argue that dependent claim 57, which calls for "at least one spring extending between said guide member and the bottom end of said housing," is separately patentable, because Hubweber discloses the use of only a single spring 9 positioned between the piston 3 and the top of cylinder 1 (Appeal Br. 6). The Examiner responds that Hubweber discloses a spring in the form of a gas spring provided by pressurized gas above and below the guide member (piston 3)

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(Answer 4, citing to Hubweber, col. 1, ll. 47-61). The Appellants respond that the claim uses the word “spring” in its conventional sense “as a flexible elastic object used to store mechanical energy” and the Specification, drawings, and claims do not define spring as a gas (Reply Br. 3). The Appellants further contend that the Specification distinguishes between a spring and a gas spring (*Id.*, citing to Specification 3:23-34).

We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims “their broadest reasonable interpretation consistent with the specification” and 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, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004). The Specification does not define the term “spring.” The Specification states, “In accordance with another and/or alternative aspect of the present invention, the spring system can be a gas spring and/or include at least one spring” (Specification 3:23-24). We do not read this sentence in the Specification as distinguishing gas springs from springs; rather, we find that one having ordinary skill in the art would understand this sentence to mean that the spring system can be based on a pneumatic spring system (e.g., a gas spring) and/or include a mechanical spring. The term spring, although typically referring to mechanical springs, is broad enough to encompass pneumatic springs.⁴ In fact, the Appellants’

⁴ The term “spring” is defined as “1. An elastic device, such as a coil of wire, that regains its original shape after being compressed or extended. 2. An actuating force or factor; a motive.” *The American Heritage® Dictionary of the English Language* (4th ed. 2000). Pressurized gas is thus a spring because it provides an

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own Specification refers to “gas springs.” As such, the “spring” of claim 57 broadly refers to the genus “spring,” which includes all types of springs, including gas springs and mechanical springs. If the Appellants wish to limit claim 57 to mechanical springs, it is the Appellants’ burden to precisely define the invention as such, not the PTO’s. *See In re Morris*, 127 F.3d 1048, 1056, 44 USPQ2d 1023, 1029 (Fed. Cir. 1997). Appellants always have the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). Accordingly, we find that Hubweber discloses spring, in the form of a gas spring, extending between the guide member (piston 3) and the bottom end of the housing (lower, closed end of cylinder 1) (Findings of Fact 10, 11). As such, Hubweber anticipates dependent claim 57.

Rejection of claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Gottling

The Appellants contend that Gottling does not anticipate independent claims 37 and 43 because Gottling does not disclose a guide member positioned in the internal chamber and secured to the spring rod to support the spring rod during axial movement (Appeal Br. 7). The Examiner responds that “Gottling does not show the guide member (piston) attached to the rod 20 but it is discussed” (Answer 5, citing Gottling, col. 1, ll. 13-19).

actuating force.

While we agree with the Examiner that Gottling describes a piston (Finding of Fact 12), Gottling does not state where the piston is located and does not show the piston “positioned in the internal chamber” as recited in claims 27 and 43 (Finding of Fact 13). Gottling discloses a braking apparatus 10 comprising a housing 12 of a working cylinder 14, and the piston rod is shown extending through a closed end of the housing 12 (Findings of Fact 14, 15). If the piston is attached to the end of piston rod 20 that extends through the closed end of housing 12, then the piston would be positioned outside of the internal chamber of the housing (Finding of Fact 16). As such, Gottling does not disclose a guide member positioned in the internal chamber of the housing, as recited in independent claims 27 and 43 (Finding of Fact 17).

The Appellants further contend that Gottling further does not disclose a lower end portion of a spring rod positioned in the housing (Appeal Br. 8). The Examiner responds that “[i]t is clear that rod 20 is the piston rod of the working cylinder 14.” As explained *supra*, Gottling discloses the lower end portion of the piston rod 20 extends outwardly of the bottom end of the housing (Finding of Fact 15). As such, Gottling does not disclose a lower end of a spring rod positioned in an internal chamber of the housing, as recited in claims 27 and 43 (Finding of Fact 18). Gottling also does not anticipate dependent claims 37, 39, and 41, which depend from claim 27, and dependent claims 53, 55, and 57, which depend from claim 43, for the same reasons provided *supra*.

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CONCLUSIONS OF LAW

We conclude that the Appellants have shown that the Examiner erred in rejecting claims 27, 37, 39, and 41 as anticipated by Hubweber and claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Gottling. We further conclude that the Appellants have failed to show that the Examiner erred in rejecting claims 43, 53, 55, and 57 as anticipated by Hubweber.

DECISION

The decision of the Examiner to reject claims 27, 37, 39, and 41 as anticipated by Hubweber and claims 27, 37, 39, 41, 43, 53, 55, and 57 as anticipated by Gottling is reversed. The decision of the Examiner to reject claims 43, 53, 55, and 57 as anticipated by Hubweber 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). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2006).

AFFIRMED-IN-PART

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FAY SHARPE LLP
1100 SUPERIOR AVENUE, SEVENTH FLOOR
CLEVELAND OH 44114