BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Internal distribution code:
(A) [ ] Publication in OJ
(B) [ ] To Chairmen and Members
(C) [X] To Chairmen

D E C I S I O N
of 4 March 1998

Case Number: T 0379/97 - 3.2.4

Application Number: 90906537.7

Publication Number: 0489012

IPC: A47J 27/092

Language of the proceedings: EN

Title of invention:
Pressure Cooker Interlock

Patentee:
National Presto Industries, Inc.

Opponent:
SEB S.A.

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 84, 123

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
T 0002/83, T 0005/81, T 0056/87

Catchword:
-

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0379/97 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 4 March 1998

Appellant: (Opponent)
SEB S.A.
SEB Développement
Chemin du Petit Bois - B.P. 172
69132 Ecully Cedex (FR)

Representative:
Martin, Didier Roland Valéry
Cabinet Didier Martin
48, Chemin des Verrières
69260 Charbonnières (FR)

Respondent: (Proprietor of the patent)
National Presto Industries, Inc.
3925 North Hastings Way
Eau Claire
WI 54701-3703 (US)

Representative:
Belcher, Simon James
Urquhart-Dykes & Lord
Tower House
Merrion Way
Leeds LS2 8PA (GB)

Decision under appeal: **Interlocutory decision of the Opposition Division of the European Patent Office posted 10 February 1997 concerning maintenance of European patent No. 0 489 012 in amended form.**

Composition of the Board:

Chairman: C. A. J. Andries
Members: R. E. Gryc
M. Lewenton

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received at the EPO on 8 April 1997 against the interlocutory decision of the Opposition Division, dispatched on 10 February 1997, which maintained the patent No. 0 489 012 in an amended form. The appeal fee was paid simultaneously and the statement setting out the grounds of appeal was received at the EPO on 10 June 1997.

II. Opposition was filed against the patent as a whole and based on Article 100(a) EPC. The Opposition Division held that the grounds for opposition cited in Article 100(a) EPC did not prejudice the maintenance of the patent in the amended version filed during the oral proceedings of 8 January 1997, having regard in particular to document:

D1: FR-A-2 560 027.

III. With his statement setting out the grounds of appeal, the appellant introduced into the proceedings the following document:

D6: FR-A-2 484 817

and contended that the state of the art described in said document anticipated totally the subject-matter of Claim 1.

In the case that lack of novelty with respect to D6 would not be acknowledged by the Board, the appellant contended further that the subject-matter of Claim 1 lacks inventive step. In particular he pointed out that, with regard to the teachings of D6 or D1, to reuse a means already well-known in the same technical

field for the same aim belongs to the usual activities of the skilled person. Moreover, he contended that the safety device according to D6 comprises a pressure-activated locking mechanism and a distinct additional manual locking means which is not necessary for the security against pressurisation of the vessel.

The respondent (patentee) replied that the construction disclosed in D6 does not include a cam surface which, at the opening of the lid, allows the lock pin to move from the cam base to the cam nose by rotation of the lid and the resulting cam action on the lock pin. He also introduced into the proceedings a new document (D7: US-A-4 620 643) which corresponds partly to D1 and refers to D6. He contended that the device according to D7 was an improvement over that of D6, that neither document suggests relying on the action of the lock pin against the cam surface to cause the lock pin to move from the cam base to the cam nose on opening the cover and that the retention of a release button feature in D7 is a teaching away from the solution claimed in Claim 1.

In subsequent statements, the appellant maintained the objection of lack of novelty with respect to the state of the art disclosed in D6 and objected moreover that Claim 1 lacks clarity and contravenes to the requirements of Article 123(2) EPC.

He also filed two additional documents:

D8: US-A-2 513 350 and

D9: CH-A-353 151

and argued that it was already known, in particular from said new documents, to use locking devices without an additional control button, that the provision of

such a button should be considered as an alternative solution which becomes necessary when it is decided to provide the cooker with means generating a noise to warn the user that the locking position is reached, such a warning being usually made by a steep ramp on the cam surface.

IV. Oral proceedings took place on 4 March 1998.
The respondent filed a new Claim 1 amended in order to avoid the objections made in a Board's communication dated 3 February 1998.

The appellant contended that the portion of Claim 1 starting from: "...the lock pin is made to move..." down to the end of the claim was not clear and had no explicit support in the description of the application as filed.

In his opinion, the new Claim 1 complied neither with the requirements of Article 84 nor with the requirements of Article 123(2) EPC.

He was further of the opinion that, due to this lack of clarity, the subject-matter of Claim 1 was completely anticipated by D6 and lacked novelty.

The appellant acknowledged that the prior art disclosed in D6 was the closest to the invention and that the problem solved by the invention was to simplify the locking device known from D6. He contended that D9 was concerned with the same problem in the same technical field and that it gave already the same solution to this problem as that according to the invention, i.e. to replace a control button by a symmetrical cam surface.

The appellant pointed out that D9 describes as a disadvantage the use of a manual element and he contended that, starting from D6 and taking into account the teaching of D9, the skilled person would arrive at the invention without difficulty. In his opinion, the provision of a steep ramp on the cam surface of the device according to D6 results only from the wish of having a warning signal to indicate that the lid is correctly closed and it should not be considered as an additional security at the opening.

The appellant emphasized furthermore that two main types of safety devices (manual actuated ones and pressure responsive ones) were well known in the field of pressure cookers and that the skilled person knew that he could use these two types either each one alone or both in combination. Moreover, the security can be reinforced by using means generating a sound as taught by D6. Therefore, according to the appellant, D6 does not teach away from the solution claimed in Claim 1 and the solution of using pressure responsive means according to D6 cannot be opposed to the solution using leakage means disclosed in D9 and he considered that the same reasoning based on the combined teachings of D7 and D9 would lead to the conclusion that the skilled man would be incited to avoid the use of a control button and would arrive at the invention without the exercise of an inventive step.

V. The appellant requested that the decision under appeal be set aside and the patent No. 489 012 be revoked.

The respondent requested that the decision under appeal be set aside and the patent be maintained on the basis of Claim 1 as filed during the oral proceedings and the rest of the patent accepted by the first instance.

VI. The wording of Claim 1 reads as follows:

"A pressure cooker comprising a cover (28) having a cover handle (26) and having a plurality of cover lugs (27) spaced around the periphery of the cover, a body (30) having a plurality of body lugs (31) spaced around the periphery of the body for rotational engagement with the cover lugs for holding the cover on the body when the cover is rotated into a closed position with respect to the body, and for permitting removal of the cover when the cover is rotated into an open position, a lock pin (24) which can engage a body cam lug (25) to position a lock slide (20) with respect to a pressure activated plunger assembly (12), the lock pin (24) being held in place against a cam surface on the body cam lug which presents a cam nose and a cam base, and the lock slide being coupled to the lock pin and having an aperture (18) formed therein which can:

(i) accept the pressure activated plunger assembly (12) when the lock pin is on the cam base (23), so as to prevent removal of the cover when the cooker is under pressure, and

(ii) reject the pressure activated plunger assembly (12) when the lock pin is on the cam nose (29), so as to prevent pressurisation of the cooker when the cover is in a partially closed position,

in which the lock pin is made to move (i) from the position in which it engages the cam nose to that in which it engages the cam base on closing the cover, and (ii) from the position in which it engages the cam base to that in which it engages the cam nose on opening the cover, by relative rotation of the body and the cover and the resulting action of the lock pin against the cam surface of the body cam lug."

Reasons for the Decision

1. Admissibility of the appeal

After examination the appeal has been found to be admissible.

2. *Amendments (Articles 84 and 123 EPC)*

Claim 1 as filed during the oral proceedings differs mainly from Claim 1 as granted by the addition of the following features:

A: "the lock pin (24) is held in place against the cam surface"

B: "the lock pin is made to move (i) from the position in which it engages the cam nose to that in which it engages the cam base on closing the cover, and (ii) from the position in which it engages the cam base to that in which it engages the cam nose on opening the cover, by relative rotation of the body and the cover and the resulting action of the lock pin against the cam surface of the body cam lug."

Feature A is supported in the description of the application as filed (see WO-A-91/02477) by the sentence of page 4, lines 7 to 9.

A literal transcription of feature B cannot be found in the application as filed. However, the gist of the matter results from the following sentences of the application as filed considered in combination:

- "This action permits the body mounted lug to displace the locking slide during handle rotation" (see page 3, lines 13 to 15),

- "As the lock pin 24 moves across the cam body lug 25, the lock slide 20 moves back and forth across the cover bushing opening 36 and cover handle opening 34." (see page 4, lines 9 to 12),

- "Since the lock pin 24 is unable to move when the plunger assembly 12 is engaging the lock slide aperture 18, it cannot retract in order to follow the cam edge of the body cam lug 25." (see page 5, lines 14 to 17),

- "The cam action of cam lug 25 has caused the lock pin 24 to retract into the cover handle 26, thus causing the lock slide 20 to also be displaced radially in the cover handle 26." (see page 6, lines 1 to 5).

Moreover it can also be seen on Figure 2 of the application as filed that the body cam lug 25 has sloping cam edges at both extremities enabling the lock pin to ride over the lug as the lid is rotated relative to the vessel either to close or to open the lid.

Consequently the amendments made to Claim 1 do not add subject-matter extending beyond the content of the application as filed and do not extend the protection conferred by the claims.

As far as clarity of Claim 1 is concerned (Article 84 EPC), the Board cannot agree with the appellant's objection since it is clear from Figure 2, seen in the light of the above mentioned passages of the

description, that the back and forth movement of the lock pin 24 attached to the lock slide 20 only results from the rotation of the lid which forces the attached lock pin to follow the cam surface of the body cam lug.

Therefore, the above mentioned modifications of Claim 1 fulfill the requirements of Articles 84 and 123 EPC and are allowable.

3. *Novelty (Article 54 EPC)*

D6 discloses a pressure cooker having a manual-actuated lock pin (9) or stud carried by the lid and adapted when the lid is closed to cooperate with a radially oriented end portion of a locking ramp carried by the vessel for the purpose of ensuring effective locking of the lid on the vessel (see D6: page 2, lines 23 to 27 and from page 5, line 34 to page 6, line 6 or from page 7, line 35 to page 8, line 4) independently of its pressurisation. On opening said known cooker, the lid cannot be rotated relative to the vessel until the end of the lock pin has been retracted manually from a position in which it engages the base of the ramp to a position in which it is radially at the level of the nose of the ramp. Only then can the lid be rotated (see D6: page 8, lines 14 to 24).

It is thus clear from the description and also from Figures 2 and 6 of D6 that the lock pin (9) prevents the rotation of the lid as long as it is not in a position to ride the cam nose; that means that not only the radial movement of the pin during opening (from the lowest to the highest point of the cam) does not result from the rotation of the lid which can only take place subsequently but from a manual actuation of the pin by the user, but also that the action of the pin against the end of the ramp results in an effective locking of

the rotation of the lid, contrary to the invention wherein the retraction of the lock pin is solely due to the rotation of the lid and results from the reaction of the pin on the sloping surface of the cam.

Therefore, the subject-matter of Claim 1 is different with respect to that of D6 and new in the meaning of Article 54 EPC with respect to said prior art.

No further arguments having been brought forward with respect to lack of novelty, there is no need to go into further details.

4. *The closest state of the art*

In accordance with the respondent, the Board considers that D6 discloses the closest state of the art since this document describes a pressure cooker having most of the features claimed in Claim 1 and, in particular, a cam surface against which the lock pin is held in place formed on a body cam lug as according to the invention.

As already pointed out in section 3 above, the subject-matter of Claim 1 differs from the cooker of D6 mainly in that:

"... the lock pin is made to move ... (ii) from the position in which it engages the cam base to that in which it engages the cam nose on opening the cover, by relative rotation of the body and the cover and the resulting action of the lock pin against the cam surface of the body cam lug".

5. *Problem and solution*

Starting from the pressure cooker disclosed by D6 and taking into account the above-mentioned differences, the problem to be solved as objectively determined appears to be to simplify said closest prior art (see the patent: column 2, lines 26 to 29).

The Board is satisfied that the invention as claimed in Claim 1 brings effectively a solution to this problem.

6. *Inventive step (Article 56 EPC)*

6.1 The questions to be answered as regards the inventive step are not only whether the skilled person, starting from the closest state of the art and examining the prior art in the light of his general common knowledge, would be provided with enough indications so that he could arrive at the solution claimed in Claim 1, but moreover whether he would find hints or clues inciting him to modify said closest state of the art in the direction of the claimed invention in expectation of the improvement he was searching (see decision T 2/83, OJ EPO 1984, 265).

Also, when investigating inventive step, an interpretation of the prior art documents as influenced by the problem solved by the invention while the problem was neither mentioned nor even suggested must be avoided, such an approach being merely the result of an a posteriori analysis (see decision T 05/81, OJ EPO 1982, 249). Moreover, it should be borne in mind that the technical disclosure in a prior art document should be considered in its entirety, as it would be done by a person skilled in the art and that it is not justified

arbitrarily to isolate parts of such document from their context in order to derive therefrom a technical information, which would be distinct from the integral teaching of the document (see decision T 56/87, OJ EPO 1990, 188).

6.2 D6 relates to a pressure cooker provided with a bayonet locking system as according to the invention. In order to prevent opening by rotation of the lid relative to the vessel, this appliance is equipped with a radially slidable thumb-actuated stud mounted within the handle of the lid and adapted to abut against a radial abutting surface of one end of a ramp provided on the rim of the vessel so as to ensure effective locking of the stud. In order to increase the user's security, D6 teaches the use of additional means for locking the locking lug itself to prevent any radial displacement of it away from the abutting end of the ramp.

Therefore, the main concern of D6 appears to be the security of the user's and the skilled person would learn that, on usual pressure cookers of the type related in this document, the main locking effect to prevent rotation and opening of the lid is ensured mechanically, independently from the pressure inside the vessel, by manually displaceable abutting means (see D6: page 1, lines 22 to 32) constituting the only mechanism for locking the cover on the body of the cooker. The skilled person would also be taught that, to increase the security of the user when the vessel is pressurised, said single locking mechanism preventing alone the rotation and the subsequent opening of the lid should be itself locked in its locking position by a pressure responsive element.

6.3 The above mentioned closest state of the art (see section 4) being considered as a starting point, the skilled person who wants to simplify the cover interlock would be a priori dissuaded from suppressing the radial abutting face of the end of the ramp which provides the only effective locking between the cover and the body of the cooker and he would be confirmed in this opinion by the teaching of D1 which is supposed, according to D7, to disclose an improvement of the cooker according to D6 and keeps the same type of thumb-actuated locking mechanism to lock the lid on the vessel. Instead of inciting the skilled person to abandon such a thumb-actuated locking stud, D1 would on the contrary incite him to keep two independent locking systems, a pressure responsive one and a manual one.

6.4 When starting from the pressure cooker according to D6, the skilled person faced with the problem of simplifying this known cooker appliance would also naturally not be inclined to consult D9 filed twenty two years before D6 and concerned with a different type of safety device as the one described in D6, the problem of simplifying the mechanism used to lock the lid on the vessel being not even contemplated in D9.

Furthermore, it should be emphasized that, in D9, the pin (21) is moved radially from the cam base to the cam nose not only during closing instead of opening the lid but also for another purpose i.e. to restore the sealing of the vessel instead of to unlock the lid.

Even if, in spite of all, the skilled person would nevertheless take into consideration the teachings of this prior art document, there is no reason why he should isolate only the sloping ramp (which is oriented in a different direction with respect to the sense of

rotation of the lid as the one according to the invention and serves for another purpose) from the complete safety mechanism disclosed in D9 without either an indication or a clue for doing so.

Although D9 suggests to look for automatising an existing manual solution (see D9: page 1, lines 38 to 59), the Board considers that this general teaching cannot be compared with the way of modifying the cooker of D6 according to the invention because the teaching of D9 leads to an alternative solution (automatic versus manual) which provides the same effect and the same final result (sealing when closed) whereas the automatisation of the retraction of the locking-pin of D6 according to the invention comes from changes, not only in the structure of the cam (a sloping end replacing a radial end), but also in the function of the cam (guiding instead of abutting) and, therefore, results in the vanishing of an effective locking independent from the pressurisation of the vessel i.e. different effect and result are obtained.

Moreover, the skilled person would know that with a sloping ramp as described in D9 replacing the radial abutting end face (10) of D6, the locking against rotation of the cover relative to the body would be ensured only by the valve stem or plunger (17) and the lock slide (19), i.e. by parts which are relatively weak in order to resist to the non-negligible shearing torque which can be developed by the long handles forced apart by the user trying to open the lid. This would therefore not incite the skilled person from abandoning the obstacle formed by the radial end of the ramp of D6 providing an effective locking since this modification could only be considered by the skilled person as a decrease of the security for the user in contradiction with the global teaching of D6 and also of D1.

6.5. For the foregoing reasons, the Board considered that to improve according to the teaching of Claim 1 the pressure cooker disclosed in D6 does not follow plainly and logically from the cited prior art and that the reasons stated by the appellant did not prejudice the maintenance of the patent in its amended version filed by the respondent at the oral proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to maintain the patent in the following version:

   - Claim 1 as filed during the oral proceedings;
   - claims 2 to 8 as granted;
   - description and figures as maintained by the first instance.

The Registrar: The Chairman:

N. Maslin C. Andries