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D E C I S I O N
of 8 November 1999

Case Number: T 0686/98 - 3.2.4

Application Number: 92900332.5

Publication Number: WO 92/06006

IPC: B65B 5/06

Language of the proceedings: EN

Title of invention:
ICE BAGGER

Applicant:
PACKAGED ICE, INC.

Opponent:
-

Headword:
-

Relevant legal provisions:
EPC Art. 54, 56, 84, 123(2)

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

Decisions cited:
T 0056/87

Catchword:
-



Case Number: T 0686/98 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 8 November 1999

Appellant: PACKAGED ICE, INC.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 3 February 1998
refusing European patent application
No. 92 900 332.5 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: C. A. J. Andries
Members: R. E. Gryc
R. E. Teschemacher

Summary of Facts and Submissions

I. The appellant lodged an appeal, received at the EPO on 3 April 1998, against the decision of the Examining Division notified by post on 3 February 1998, refusing the European patent application No. 92 900 332.5 filed as an international application PCT/US91/07214 and published under the international publication number WO-A-92/06006.

The fee for appeal was paid simultaneously and the written statement setting out the grounds of appeal was filed on 9 June 1998.

II. The Examining Division held that the subject-matter of Claim 1 being examined did not meet the requirements of Articles 52 and 56 EPC having regard to the state of the art disclosed in prior art document:

D1: US-A-3 719 307

in combination with the teachings of:

D2: US-A-3 807 193

D3: US-A-3 789 570 and

D4: US-A-4 368 608

III. In his written statement setting out the grounds of appeal and also in his replies to the communications of the Board, the appellant essentially contended the following:

- The invention brings a solution to the problem of

melting of ice during the bagging procedure and freezing of the melt water during storage.

- In the prior art documents, there is neither a teaching nor a suggestion of the claimed arrangement, in particular in the arrangement of D1 which does not include a bagging apparatus.
- Devices which are designed for dispensing discrete quantities into a glass on demand have no direct application to automated filling of a series of bags in an essentially continuous process.
- D1 would not represent a source of guidance to one skilled in the art of automated bagged ice dispensing and the bags of ice of D2 were intended to be removed as soon as they were filled whereas, in the invention, the filled bags are sealed and stored.
- Moreover, neither D1 nor D2 disclosed the problem of water forming in continuously-bagged ice which is to be stored subsequently and none of the other prior art of record addresses this problem.

IV. Oral proceedings took place on 8 November 1999.

The appellant submitted an auxiliary request based on a new set of claims, a new description and new Figures 1 to 3.

Also he repeated the argumentation already presented in reply to the communications of the Board and pointed out that, in the state of the art, there would not have been any incentive for the skilled person to go from

the teaching of D1 to that of D2, the problem of which is to cope with the water dropping under the bag and not into the bag. Nevertheless, the appellant acknowledged that D2 disclosed the state of the art closest to the invention claimed in Claim 1 of the main request whereas, in his opinion, D4 appeared to be closer to the subject-matter of Claim 1 of the auxiliary request.

V. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the set of claims submitted with the Statement of Grounds of Appeal.

Alternatively, he requested that a patent be granted with the following documents:

- Description, pages 1 to 9 and Claims 1 to 8 as submitted during the oral proceedings;
- Drawings, Figures 1 to 3 as submitted during the oral proceedings and Figures 4 to 11 as published in WO 92/06006.

VI. Claim 1 as submitted with the Statement of Grounds of Appeal (main request) reads as follows:

"An ice machine comprising in combination:
(a) an ice making machine;
(b) an ice bagging apparatus comprising:
(i) an ice collecting zone;
(ii) an upwardly directional ice transport means comprising an upwardly inclined tube;
(iii) an ice bagging zone positioned below an upper terminal end of said ice transport means; and

(iv) a water drain positioned on said tube at substantially the lowest point thereof."

Claim 1 as submitted during the oral proceedings (auxiliary request) reads as follows:

"Apparatus for producing bags of discrete units of ice, comprising:

an ice making machine for producing discrete units of ice;

an ice collection zone (10a) positioned under the ice making machine

to receive said discrete units of ice;

an upwardly directional ice transport means comprising an upwardly inclined tube (14) having an entrance positioned below the ice collection zone (10a) to receive ice therefrom, the tube having a water drain (24) positioned on said tube at substantially the lowest point thereof;

an ice bagging zone (3b) positioned below an upper terminal end of said ice transport means; and

a bag storage compartment (4) for storing a plurality of filled bags of ice."

Reasons for the Decision

1. Admissibility of the appeal.

The appeal is admissible.

2. *Main request (Claim 1 filed with the Statement of Grounds)*

- 2.1 Novelty (Article 54 EPC)

None of the documents cited in the international search report or in the supplementary European search report discloses an ice machine comprising in combination all the features described in Claim 1.

The subject-matter of Claim 1 is therefore new in the meaning of Article 54 EPC.

2.2 Problem to be solved and concept of the solution

According to the indications given in the description of the application (WO 92/06006: see for example page 1, lines 18 to 29) the aim of the invention is to solve the problems associated with melting ice during the bagging procedure and leakage of the melt water either into the apparatus where it freezes or into the bag where it will lock the ice cubes together.

The invention solves this problem by providing an arrangement wherein the melting ice does not drop directly into a bag and the melt water is collected away from the bagging apparatus and removed from the machine (see WO 92/06006: page 2, lines 5 to 10 and the statement of grounds: page 2, third paragraph).

2.3 The state of the art closest to the invention

Following the argumentation of the appellant the Board considers that, among all the documents cited in the two search reports, D2: US-A-3 807 193 describes the state of the art closest to the subject-matter of Claim 1.

The machine claimed in Claim 1 differs from that known from D2 in that the ice transport means comprises an

upwardly inclined tube provided with a water drain at substantially its lowest point whereas the ice moving means (36) of D2 includes a horizontally mounted screw conveyor and a drain positioned directly below the terminal end of the screw.

2.4 Inventive step (Article 56 EPC)

At the filing date of the application, the skilled person starting from the apparatus of D2 and faced with the problem of avoiding dripping of melted ice from the dispensing spout of the horizontally disposed ice conveying mechanism would have been led to consult D1 which belonged to the same technical field and concerned the same problem (see D1: column 1, lines 18 to 24) as the invention.

From this document the skilled person would have learned the general concepts of the solution according to the invention i.e. that the ice pieces delivered from the collecting zone of the machine must not drop directly into the final receptacle of ice cubes and that the water of the melting ice in said collecting zone had to be collected separately and removed from the machine (see section 2.2 above).

In addition, the skilled person would have learned from D1 that in order to implement said concepts on the ice machine of D2, it was sufficient to incline upwardly the ice moving means (36) of said known machine and to provide a drain at substantially the lowest point of said means (see D1: Figure 4).

The general idea and the essential measures to be followed for implementing the solution on the machine

of D2 being thus already taught by D1 to the skilled person, the sole few additional adaptations to be made to transform the ice conveying means of D2 according to the teaching of D1 do not, taken alone, involve the exercise of any skill or ability beyond that to be expected of the person skilled in the art.

Therefore, the subject-matter of Claim 1 of the main request does not involve an inventive step in the meaning of Article 56 EPC and is not patentable (Article 52 EPC).

3. *Auxiliary request (Claims 1 to 8 and description as submitted during the oral proceedings)*

3.1 Amendments (Articles 84 and 123(2) EPC)

All the features which have been added in the new Claim 1 have a counterpart either in the description or in the figures of the application as filed.

In the new dependent Claims 2 to 5, the subject-matter of the invention is designated by the expression "ice machine" which corresponds to the term "apparatus" used in Claim 1 to which said dependent claims refer and all these claims have a counterpart in the original application. In particular, Claims 2 to 5 correspond respectively to Claims 22, 23, 35 and 26 and the content of Claims 6 to 8 is described in lines 6 to 8 of page 4 and from line 31 of page 8 to line 4 of page 9 of WO 92/06006 respectively.

As far as the description is concerned, it has been modified so as to disclose the invention as claimed in order to comply with Rule 27 EPC and also to correct

some minor clerical errors.

Therefore, none of the modifications made to the application infringes the requirements of Article 123(2) EPC and they are all acceptable.

3.2 Novelty (Article 54 EPC)

The apparatus claimed in Claim 1 differs from the ice dispensing device or bagging apparatuses disclosed respectively by D1 or D2 and D3 in that it comprises a bag storage compartment for filled bags of ice whereas none of said devices is conceived so as to prepackage ice in bags and to store the bags filled with ice in a refrigerated zone.

The apparatus of Claim 1 differs from the ice bagger of D4 in that an ice collecting zone and an upwardly directional ice transport means are provided under the ice making machine whereas, under the ice maker, the device of D4 comprises a chute leading the released ice directly into a bag.

Therefore, the subject-matter of Claim 1 is new in the meaning of Article 54 EPC over D1 to D4.

3.3 The closest state of the art

D4 is the sole document describing a device of the same type as the apparatus according to the invention i.e. an apparatus where discrete units of ice are prepackaged in sealed bags which are stored in a cold storage bin (see D4: column 2, lines 22 to 32). The ice bagger of D4 is thus the state of the art closest to the invention.

The subject-matter of Claim 1 differs from said known apparatus in that, instead of a simple chute positioned directly under the ice making machine as according to the bagger of D4, it comprises:

- an ice collection zone for receiving the discrete units of ice produced by the ice making machine and,
- an upwardly directional ice transport means comprising an upwardly inclined tube having an entrance positioned below the ice collection zone to receive ice therefrom, said tube having a water drain (24) positioned at substantially the lowest point of the tube.

3.4 Problem and solution

When starting from said closest state of the art, and taking into account the above-mentioned differences, the problem to be solved by the person skilled in the art appears to be to improve the bagger of D4 in order to prevent the units of ice from jamming along the way from the ice maker to the bag or in the bag itself, the solution being to interpose between the ice making machine and the bagging zone an ice collection zone and an upwardly directional ice transport means with a water drain.

3.5 Inventive step (Article 56 EPC)

3.5.1 D4 concerns a method and an apparatus for prepackaging preweighted ice in sealed bags which are stored in a cold storage compartment for subsequent sale. The aim of this known method is to protect the sanitation of

the ice and to prevent its deterioration i.e. to avoid a certain loss of ice due to sublimation and also due to it freezing together and having to be stirred and broken up before it is weighted (see D4: column 2, lines 3 to 9). This aim should be achieved with a device that is, in particular, simple, inexpensive and easy to manufacture (see D4: column 2, lines 39 to 44).

In order to reach this aim, D4 integrally teaches packaging the cubes of ice without delay after freezing (see D4: column 1, lines 7 and 65 to 67; column 2, lines 9 to 12 and column 3, lines 26 to 29) and dumping the cubes from the ice maker directly into a heat sealable bag through the most direct and fastest way of a vertical chute (see D4: column 3, lines 50 to 55 and Figure 2).

- 3.5.2 Starting from D4 with the intention of improving the bagger described therein the skilled person would have a priori no reason to consult D1 which is not concerned with an apparatus for producing bags of discrete units of ice which are stored for subsequent sale as according to the invention, but with a device for dispensing upon demand flaked or chipped ice in a predetermined quantity directly into an empty glass positioned by a customer so as to operate a switch and to receive the ice (see for example D1: column 1, lines 4 to 7; column 6, lines 9 to 12 and column 7, lines 15 to 19).

The skilled person would also have no reason and would not be led to consult D2 which describes an invention whose primary object is to provide an apparatus which eliminates the need for prepackaging the ice (see D2: column 1, lines 27 to 30) and which stores the ice

produced by an ice making unit within an ice storage area before bagging upon demand (see D2: column 1, lines 48 to 50).

Since D3 is not concerned with the problem of preventing the units of ice from jamming along the way from the ice maker to the bag or in the bag itself, and since D3 describes a bagging apparatus which stores the ice cubes within an ice cube bin before bagging i.e. does not package the ice cubes immediately after freezing and, moreover, does not teach that the ice cubes should be prepackaged in sealed bags which should be stored in a cold storage compartment for subsequent sale as according to D4, the skilled person wishing to improve the device of D4 also would have a priori no reason to consult D3.

- 3.5.3 Assuming nevertheless that the skilled person would have consulted D1 and D2 and learned therefrom that an ice dispensing apparatus can be provided with a storage zone for receiving the discrete units of ice produced by the ice maker and with a screw conveyor for transporting the ice from said zone to the outlet chute, he would not have envisaged adapting these additional means between the ice maker and the chute 34 of the apparatus of D4 because this would have complicated the apparatus and made the path of the ice from the ice maker to the chute much longer than it was with the result that the bagging starting time after freezing would have been delayed in contradiction to the aim and teaching of D4 considered in its entirety (see decision T 56/87, OJ EPO 1990, 188).

Assuming also that the skilled person would have consulted D3, he would not have learned therefrom to

use an ice transport means comprising an upwardly inclined tube with a water drain according to the invention and would not therefore have been able to embody the invention as claimed in Claim 1.

- 3.5.4 Consequently, to modify the automatic ice bagger known from D4 according to the teaching of either D1, D2 or D3 with the resulting supplemental structural adaptations as described in Claim 1 does not follow plainly and logically from the prior art illustrated by said documents but implies an inventive step within the meaning of Article 56 EPC.

4. *Conclusion*

For the foregoing reasons, the application as amended according to the auxiliary request and the invention to which it relates meet the requirements of the EPC and a patent can be granted on the basis of said new version as submitted during 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 grant a patent in the following version:
 - Description, pages 1 to 9 and Claims:1 to 8 as submitted during the oral proceedings;
 - Drawings, Figures 1 to 3 as submitted during the

oral proceedings and Figures 4 to 11 as published
in WO 92/06006.

The Registrar:

The Chairman:

G. Magouliotis

C. Andries