

Citation: ACKLEY MACHINE CORPORATION (Re), 2023,CACP 2  
Commissioner's Decision #1635  
Décision du Commissaire n° 1635  
Date: 2023-01-12

TOPIC: O00 Obviousness  
C00 Adequacy or Deficiency of Description  
A11 New Matter  
B00 Indefiniteness  
SUJET: O00 Évidence  
C00 Caractère adéquat ou inadéquat de la description  
A11 Nouvelle matière  
B00 Indéfini

Application No. : 2,506,048

Demande n° 2 506 048

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,506,048, having been rejected under subsection 199(1) of the *Patent Rules* (SOR/2019–251) has consequently been reviewed in accordance with paragraph 86(7)(c) of the *Patent Rules*. The recommendation of the Board and the decision of the Commissioner are to refuse the application.

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## INTRODUCTION

- [1] This recommendation concerns the review of rejected Canadian patent application number 2,506,048 (“the application”), which is entitled “LASER UNIT, INSPECTION UNIT, METHOD FOR INSPECTING PELLET-SHAPED ARTICLES AND PHARMACEUTICAL ARTICLE” and is owned by ACKLEY MACHINE CORPORATION (“the Applicant”).
- [2] A review of the rejected application has been conducted by the Patent Appeal Board (“the Board”) pursuant to paragraph 86(7)(c) of the *Patent Rules* (SOR/2019–251) (“*Patent Rules*”). As explained in more detail below, our recommendation to the Commissioner of Patents is to refuse the application.

## BACKGROUND

### The application

- [3] The application, based on a previously filed *Patent Cooperation Treaty* application, with a claimed priority date of November 13, 2002, has a filing date of November 13, 2003, and was laid open to public inspection on May 27, 2004.
- [4] The application relates to a conveying and inspecting system for pellet-shaped articles.
- [5] The application has 57 claims on file, which were received at the Patent Office on September 24, 2019 (“claims on file”).

### Prosecution history

- [6] On June 22, 2020, a Final Action (“FA”) rejecting the claims on file, was issued pursuant to subsection 86(5) of the *Patent Rules*. The FA stated that the application is defective on the ground that all of the claims 1 to 57 on file would have been obvious to a person skilled in the art and are therefore non-compliant with section 28.3 of the *Patent Act*.
- [7] On October 21, 2020, a response to the FA (“R-FA”) was filed by the Applicant. In the R-FA, the Applicant submitted a proposed set of claims 1 to 30 (“proposed claims”) and submitted arguments in favour of patentability for the proposed

claims.

- [8] In a Summary of Reasons (“SOR”), the Examiner maintained the position that the application did not comply with section 28.3 of the *Patent Act* after considering the R-FA. Accordingly, the application was forwarded to the Board on March 16, 2021, pursuant to subsection 86(7) of the *Patent Rules*.
- [9] The SOR was forwarded to the Applicant on March 18, 2021. In a letter dated June 14, 2021, the Applicant indicated their desire for the Board to proceed with a review of the application.
- [10] In a preliminary review letter dated September 21, 2022 (“PR letter”), the undersigned Panel (“the Panel”) presented its preliminary analysis and rationale.
- [11] In addition to the obviousness defect identified in the FA, pursuant to subsection 86(9) of the *Patent Rules*, the PR letter preliminarily identified further new matter, indefiniteness, and description defects:
- Claims 1 to 57 on file would have been obvious to the skilled person and do not comply with paragraph 28.3(b) of the *Patent Act*;
  - Claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*;
  - Claims 33, 40, 41, and 44 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*;
  - The description incorporates by reference other documents and does not comply with subsection 57(1) of the *Patent Rules*;
  - The description refers to reference characters that are not shown in the drawings and thus does not comply with subsection 59(11) of the *Patent Rules*; and
  - The proposed amendments contain new matter and obviousness defects, do not overcome the description defects, and thus cannot be considered “necessary” amendments under subsection 86(11) of the *Patent Rules*.
- [12] The PR letter also offered the Applicant the opportunities to make written submissions and attend an oral hearing.
- [13] On October 24, 2022, the Applicant declined the opportunity to attend an oral

hearing and indicated there would no further written submissions.

[14] Accordingly, we undertake the final review based on the written record.

## ISSUES

[15] This review considers the following issues:

- whether claims 1 to 57 on file are unobvious, as required by section 28.3 of the *Patent Act*;
- whether claims 2, 20, and 33 on file do not introduce new matter, as required by section 38.2 of the *Patent Act*;
- whether claims 33, 40, 41, and 44 on file are definite, as required by subsection 27(4) of the *Patent Act*; and
- whether the description complies with subsections 57(1) and 59(11) of the *Patent Rules*.

[16] We first consider the above issues with respect to the claims on file. We then consider whether the proposed amendments constitute amendments necessary for compliance with the *Patent Act* and *Patent Rules*.

## LEGAL PRINCIPLES AND OFFICE PRACTICE

### Purposive construction

[17] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66, and *Whirlpool Corp v Camco Inc*, 2000 SCC 67, purposive construction is performed from the point of view of the person skilled in the art in light of the relevant common general knowledge (“CGK”), considering the whole of the disclosure including the specification and drawings. In addition to interpreting the meaning of the terms of a claim, purposive construction distinguishes the essential elements of the claim from the non-essential elements. Whether or not an element is essential depends on the intent expressed in or inferred from the claim, and on whether it would have been obvious to the skilled person that a variant has a material effect upon the way the invention works.

## New matter

- [18] Subsection 38.2(2) of the *Patent Act* sets forth the conditions under which amendments may be made to the specification or drawings of a patent application:

The specification and drawings contained in an application, other than a divisional application, may not be amended to add matter that cannot reasonably be inferred from the specification or drawings contained in the application on its filing date.

- [19] The question as to whether matter added to the specification or drawings by amendment complies with section 38.2 of the *Patent Act* is considered from the point of view of the skilled person at the time the application was filed.
- [20] The assessment as to the presence of new matter therefore requires a comparison of the pending specification with the originally filed specification and drawings, and a determination as to whether the subject-matter of the amendments is that which would have been reasonably inferred from the original specification or drawings by the skilled person.

## Obviousness

- [21] Section 28.3 of the *Patent Act* requires claimed subject-matter to not be obvious:

The subject-matter defined by a claim in an application for a patent in Canada must be subject-matter that would not have been obvious on the claim date to a person skilled in the art or science to which it pertains, having regard to

- (a) information disclosed before the one-year period immediately preceding the filing date or, if the claim date is before that period, before the claim date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and
  - (b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.
- [22] In *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61, at para 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach:

- (1)(a) Identify the notional “person skilled in the art”;
- (1)(b) Identify the relevant common general knowledge of that person;
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

#### Indefiniteness

- [23] Subsection 27(4) of the *Patent Act* requires that a claim distinctly and explicitly define subject-matter:

The specification must end with a claim or claims defining distinctly and in explicit terms the subject-matter of the invention for which an exclusive privilege or property is claimed.

- [24] In *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306, 12 CPR 99, at page 146, the Court emphasized both the obligation of an applicant to make clear in the claims the ambit of the monopoly sought and the requirement that the terms used in the claims be clear and precise:

By his claims the inventor puts fences around the fields of his monopoly and warns the public against trespassing on his property. His fences must be clearly placed in order to give the necessary warning and he must not fence in any property that is not his own. The terms of a claim must be free from avoidable ambiguity or obscurity and must not be flexible; they must be clear and precise so that the public will be able to know not only where it must not trespass but also where it may safely go.

#### DESCRIPTION REQUIREMENTS

- [25] Subsection 57(1) of the *Patent Rules* states:

The description must not incorporate any document by reference.

- [26] Subsection 59(11) of the *Patent Rules* states:

A reference character not mentioned in the description must not appear in a drawing and vice versa.

## ANALYSIS

[27] In the FA and the SOR, the following documents were considered relevant:

- D1: US 5,979,309 Boyce November 9, 1999
- D2: US 6,097,493 Satake et al. August 1, 2000
- D3: US 5,351,117 Stewart et al. September 27, 1994
- D4: US 5,085,510 Mitchell February 4, 1992
- D7: US 4,457,420 Ducloux July 3, 1984

[28] D1 is directed to a pellet-marking machine for inverting multiple pellets. D2 is directed to an object evaluation device for evaluating quality and shapes of transparent or translucent granular objects. D3 is directed to a method of identifying a diamond or other specific minerals. D4 is directed to a visual inspection system for inspecting pharmaceutical tablets. D7 is directed to an apparatus for diverting an object from a main path of movement after it is determined that the object includes a defect or irregularity.

[29] In the PR letter, we also considered the following documents relevant:

- D8: US 5,655,453 Ackley August 12, 1997
- D9: US 2,859,689 Ackley November 11, 1958
- D10: US 3,123,217 McMillan et al. March 3, 1964
- D11: US 3,757,943 Chae et al. September 11, 1973

[30] D8 and D9 are directed to pellet marking devices that include conveying mechanisms for conveying pellet-shaped articles. D10 and D11 are directed to capsule inspection systems.

Purposive construction

*The person skilled in the art and their common general knowledge*

[31] The PR letter provided our preliminary identifications of the skilled person and their CGK.

The FA (page 2) identified the skilled person and their CGK as:



The skilled person, which may be a team of people, is skilled in the fields of automated processing of objects such as tablets or pellet shaped objects.

[portion of text omitted]

The skilled person is familiar with different types of systems that automatically process objects so as to sort the objects based on sensed properties [and] characteristics. The skilled person is also familiar with processing units in such systems which alter the appearance of shape of the object in question, see for example D1 background and col 2 lines 3–9 which disclose tablet/pellet printing means in the prior art. The skilled person is familiar with using various means for diverting/sorting/removing objects [from] a processing line such as pneumatic systems (D4 background col 1 lines 36–38 discussing the prior art) including vacuums (D7 background col 4 lines 9–11 and col 3 lines 4–12) or air jets/blowers (also in D4 and D7 background) and the air ejector used in embodiments [of] D4. Indeed the skilled person is aware that using vacuums as an object diversion/removal means appear to stretch back at least 80 years.

The Applicant did not contest or comment on the identifications above.

Regarding the skilled person, we adopt the above identification for this review.

Regarding the CGK, based on D8 to D11 and the “Background of the Invention” section of the present application, we preliminarily consider the following as CGK:

- Knowledge regarding design, implementation, operation, and maintenance of a pellet-shaped article processing and inspection system, the system comprising:
  - a conveying mechanism;
  - one or more processing operations such as marking/colouring/coating the articles and laser drilling holes;
  - an inspection mechanism using one or more cameras (present application: “Background of the Invention”);
- Knowledge that the conveying mechanism may be provided with carrier bars, each having one row of multiple receiving pockets to receive pellet-shaped articles, wherein each row is oriented transverse to the transport direction (D8: Fig. 1, “carrier bars 12”, column 5, lines 32 to 35; D9: Fig. 1, “transverse bars 110”, Fig. 3, column 4, lines 3 to 12);

- Knowledge that the inspection mechanism may include a pneumatic removal mechanism, which may include a vacuum unit that vacuum-clamps the pellet-shaped articles, an air ejection unit, an accept bin to receive accepted articles, and a reject bin to receive rejected articles, wherein a nozzle/air tube is used for each individual receiving pocket to remove rejected articles (D10: Fig. 1A, Fig. 15, “rejection station 38”, “air tubes 84”, column 4, lines 28 to 61, column 5, lines 51 to 53; D11: Fig. 3, “chamber 68”, “reject chute 108”, column 8, lines 7 to 19); and
- Knowledge of utilizing cameras to implement the inspection mechanism with known conventional image analyzing techniques (present application: “Background of the Invention”).

[32] The Applicant did not dispute or comment on these identifications and we adopt them in this review.

#### *Essential elements*

[33] There are 57 claims on file, including independent claims 1, 19, and 35, and dependent claims 2 to 18, 20 to 34, and 36 to 57.

[34] Claim 1 on file is representative of the independent claims:

1. A conveying and inspecting apparatus for pellet-shaped articles, said apparatus comprising:

a conveyer means to convey a plurality of pellet-shaped articles in a transport direction along a predetermined path, said conveyer means being provided with a plurality of carrier bars each having at least one row of receiving pockets, and each said row receiving multiple ones of said pellet-shaped articles, each said row oriented substantially transverse to the transport direction;

at least one processing unit provided along the predetermined path, and structured to provide a first predetermined characteristic to the plurality of pellet-shaped articles;

an inspection unit provided along the predetermined path, downstream from the processing unit, the inspection unit being provided with:

a first camera unit positioned adjacent a first side of the conveyer means for sensing the first predetermined characteristic of each of the plurality of pellet-shaped articles; and

a pneumatic removal mechanism, downstream from the first camera unit, configured to direct the pellet-shaped articles contained in a selected row to either a reject bin or an accept bin on an individual

basis, depending on whether the first camera unit senses that each of the pellet-shaped articles includes the first predetermined characteristic,

wherein the pneumatic removal mechanism comprises a vacuum unit.

[35] Independent claims 19 and 35 on file are directed to a conveyor apparatus and recite similar features as claim 1. All dependent claims on file define further limitations regarding the conveying and inspecting mechanisms.

[36] As explained in the PR letter, considering the whole of the specification, the skilled person would understand that there is no use of language in the claims indicating that any of the elements are optional, a preferred embodiment, one of a list of alternatives, or otherwise non-essential. Therefore, we consider all claimed elements essential.

#### New matter

[37] The PR letter explained why the Panel preliminarily determined that claims 2, 20, and 33 on file include new matter and did not comply with section 38.2 of the *Patent Act*.

In our preliminary view, claims 2, 20, and 33 on file introduce matter that could not be reasonably inferred from the specification or drawings as originally filed.

- Claim 2 recites that the pneumatic removal mechanism includes a plurality of nozzles that is equal to a number of receiving pockets in each row of each of the carrier bars and the plurality of nozzles are positioned to remove individual pellet-shaped articles from the corresponding receiving pocket, wherein the pneumatic removal mechanism comprises a vacuum unit (from claim 1).
- Claim 20 recites that the pneumatic removal mechanism includes a plurality of nozzles that is equal to a number of pockets in each of the carrier bars and the plurality of nozzles are positioned to remove individual pellet-shaped articles from the corresponding receiving pocket, wherein the pneumatic removal mechanism comprises a vacuum unit (from claim 19).
- Claim 33 recites that each nozzle is associated with a solenoid, each of the solenoids being individually activatable to remove a selected one of the pellet-shaped articles from the corresponding pocket of the corresponding carrier bar, wherein the pneumatic removal mechanism comprises a vacuum unit (from claim 19).

In the present specification as originally filed, the vacuum unit is recited in paragraphs [0087] and [0088]. However, the specification does not disclose that a plurality of nozzles are combined with the vacuum unit to form a removal mechanism. We also note that the nozzles mentioned in paragraphs [0059] and [0085] are “blower nozzles.” Nowhere does the specification disclose that these nozzles are used in a vacuum unit. Also, in our preliminary view, these features would not have been reasonably inferred from the original specification or drawings by the skilled person.

Therefore, we are of the preliminary view that claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*.

- [38] The Applicant did not dispute or comment on this analysis and we conclude that claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*.

#### Obviousness

##### *(1) Identify the notional “person skilled in the art” and their relevant CGK*

- [39] The person skilled in the art and their relevant CGK have been identified above under “Purposive construction”.

##### *(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it*

- [40] As explained in the PR letter, all claimed elements are considered essential for this review and we take into account all elements of the claims as representing their inventive concepts for the consideration of obviousness. The Applicant did not dispute or comment on this identification and we adopt it in this review.

##### *(3) Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed*

- [41] The PR letter set out the differences between the state of the art and the inventive concept of the independent claims.

In the FA (pages 2 to 5), the Examiner argued that D4 disclosed all claimed features of the independent claims with the exception of the following features: each row of the conveying means receives multiple articles, a processing unit provides a first predetermined characteristic to

the articles, and the pneumatic removal mechanism comprises a vacuum unit. The Examiner further considered that these features would have been obvious in view of D4 and the CGK. The FA concluded that all claims on file would have been obvious and did not comply with section 28.3 of the *Patent Act*.

We preliminarily consider D4 as the closest prior art.

Regarding claims 1, 19, and 35 on file, D4 discloses the following features:

- a conveyer means comprising carriers bars with receiving pockets to convey a plurality of pellet-shaped articles in a transport direction along a predetermined path (Fig. 1, “carriers 6”, “conveyor belt 9”; Fig. 3A shows the shape of a carrier bar; column 2, lines 39 to 56);
- an inspection unit provided along the predetermined path, downstream from the processing unit, the inspection unit (Fig. 1, Fig. 2, “cameras 12”, “sensor means 18”, “separation means 24”) being provided with:
  - a first camera unit positioned adjacent a first side of the conveyer means for sensing the first predetermined characteristic of each of the plurality of pellet-shaped articles (Fig. 2, “cameras 12”; column 2, line 62, to column 3, line 12); and
  - a pneumatic removal mechanism, downstream from the first camera unit, configured to direct the pellet-shaped articles contained in a selected receiving pocket to either a reject bin or an accept bin on an individual basis, depending on whether the first camera unit senses that each of the pellet-shaped articles includes the first predetermined characteristic (Fig. 1, Fig. 2, “cameras 12”, “sensor means 18”, “transducer means 21”, “separation means 24”; column 3, line 61, to column 4, line 11).

There are three differences between D4 and the inventive concept of the independent claims:

- (1) each said row [receives] multiple ones of said pellet-shaped articles;
- (2) at least one processing unit [is] provided along the predetermined path, and structured to provide a first predetermined characteristic to the plurality of pellet-shaped articles; and
- (3) the pneumatic removal mechanism comprises a vacuum unit.

[42] The Applicant did not dispute or comment on this identification and we adopt it in this review.

[43] The dependent claims will be addressed in step (4).

*(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?*

[44] The PR letter explained why the Panel preliminarily considered that the claims on file would have been obvious to the skilled person, after considering the aforementioned differences.

*Independent claims*

Regarding difference (1), as shown in the CGK section, since the 1950s, it was a well-known practice in pellet-shaped article processing systems to have a conveyer means comprising carrier bars each having multiple receiving pockets to receive the articles, wherein each carrier bar is oriented transverse to the transport direction. In our preliminary view, combining such a well-known conveying mechanism with the teaching of D4, wherein each carrier bar has one receiving pocket, to improve processing efficiency would have been an obvious design choice and does not involve any inventive ingenuity.

Regarding difference (2), D4 discloses inspecting the pellet-shaped article having predetermined characteristics such as laser drilling (column 4, line 11, to column 5, line 43). Therefore, although not explicitly disclosed, it is inferred that a processing unit provides a first predetermined characteristic to the articles before the inspection operation. Moreover, as noted in the CGK section, it was well-known in the art that processing operations such as marking/labelling/coating the articles and laser drilling were often integrated with a conveying means to process and inspect the articles. Hence, it is our preliminary view that difference (2) would have been obvious to the skilled person.

Regarding difference (3), as noted in the CGK section, it was a well-known practice to utilize a vacuum unit as part of the pneumatic removal mechanism to vacuum-clamp the articles in place. For example, D11, a patent from the 1970s, discloses that a chamber is “supplied with a vacuum to retain the capsule if the capsule has been found acceptable by the control logic, but is supplied with a compressed air blast if the capsule has been found unacceptable” (see column 8, lines 8 to 20). D10, a patent from the 1960s, also discloses that “the capsules are vacuum clamped during the transport thereof along track 82 and through the defect rejection station” (column 5, lines 51 to 53), wherein the defect rejection station also utilizes compressed air to eject defective articles (column 12, lines 41 to 51). It is clear that a vacuum unit is part of the pneumatic removal mechanisms of both D10 and D11. Therefore,

it is our preliminary view that the feature that a pneumatic removal mechanism includes a vacuum unit is part of the CGK, and [difference] (3) would have been obvious to the skilled person.

In summary, in our preliminary view, the identified differences, when considered alone or in combination with other claimed elements, do not involve an inventive step and would have been obvious to the skilled person. Our preliminary view is that independent claims 1, 19, and 35 on file would have been obvious to the skilled person having regard to D4 in view of the CGK, and thus do not comply with paragraph 28.3(b) of the *Patent Act*.

#### *Dependent claims*

Claims 2 to 18, 20 to 34, and 36 to 57 on file recite further limitations.

Claims 2, 20, 33, 36, and 50 recite that the pneumatic removal mechanism includes a plurality of solenoids and nozzles, that the number of the solenoids and nozzles are equal to the number of receiving pockets in each carrier bar, and that the nozzles are positioned to remove individual articles from the corresponding receiving pocket. As disclosed by D4 (column 3, line 64, to column 4, line 1, “separation means” being “a solenoid connected to an air ejector”) and the CGK, utilizing compressed air to remove defective articles was a well-known practice in the art. Further, as noted in the CGK section, utilizing individual nozzles or air tubes such as blower nozzles, which could be connected to individual solenoids as disclosed in D4 (column 3, line 67, to column 4, line 1) for each receiving pocket to eject defective articles, and implementing multiple article-receiving pockets on each row of the conveying means are both well-known. In our preliminary view, it is a straightforward implementation choice to expand the teaching of D4, wherein a single solenoid-connected air ejector is used for removing a defective article on one receiving pocket per row, to using multiple solenoids and nozzles on multiple receiving pockets per row for the removal mechanism. Therefore, we are of the preliminary view that this feature would have been obvious to the skilled person.

Claims 3, 10, 21, 28, 37, and 44 recite that a controller is provided in communication with a camera unit and the pneumatic removal mechanism, for providing a signal to the pneumatic removal mechanism in accordance with the first predetermined characteristic sensed by the camera unit. D4 discloses this feature in column 3, line 61, to column 4, line 1, and column 5, lines 24 to 39.

Claims 4, 22, and 38 recite a second camera to sense a second predetermined characteristic of the pellet-shaped articles. D4 discloses that multiple cameras may be placed on both sides of the articles to inspect the articles based on different predetermined characteristics,

such as front and back standards (Fig. 2; column 2, lines 62 to column 3, line 12; column 4, lines 21 to 68). Therefore, D4 discloses this feature.

Claim 5, 23, and 39 recite that the first camera unit senses a first side of the pellet-shaped articles for the first predetermined characteristic and the second camera unit senses a second side of the pellet-shaped articles for the second predetermined characteristic. D4 discloses this feature in Fig. 2, column 2, lines 62 to column 3, line 12, and column 4, lines 21 to 68.

Claims 6 and 17 recite that the processing unit is provided with a printing or marking unit to provide printing indicia or identification to the pellet-shaped articles. As noted in the CGK section, printing/marking indicia or identification to the articles are well-known operations in the art. Therefore, it is our preliminary view that this feature would have been obvious to the person skilled in the art.

Claims 7, 25, and 41 recite that the first side and the second side are a first side and a second side of a tablet. D4 discloses this feature in Fig. 2 and column 2, lines 62 to column 3, line 12.

Claims 8, 26, and 42 recite that each of the first camera unit and the second camera unit is provided with a ring light having an opening, a lens extending through the opening, and a black/white 1/3 CCD coupled to the lens. D4 discloses that CCD cameras are used to perform the sensing operation (column 2, line 53 to column 3, line 21). Further, D4 discloses that "it is preferable to have a light means 15 that provides even, consistent, intense illumination" and "exemplary light means 15 comprises a fiber optic light source (i.e., light source, wave guide and lighting head). The fibers are contained within an annulus 303" (column 3, lines 24 to 32). Therefore, it is our preliminary view that these features would have been obvious to the skilled person.

Claims 9, 27, and 43 recite that the first camera unit is directed transverse to the transport direction and positioned on an upper side of the conveyer means to sense the first side of each of the pellet-shaped articles and the second camera unit is directed transverse to the transport direction to sense a second side of each of the pellet-shaped articles. D4 discloses this feature in Fig. 2, column 2, lines 62 to column 3, line 12, and column 4, lines 21 to 67.

Claims 11, 24, 29, 40, and 45 recite that the first predetermined characteristic sensed by the first camera unit is the same as the second predetermined characteristic sensed by the second camera unit. D4 discloses that the first and second predetermined characteristics could be front and back standards (column 4, line 49, to column 5, line 23). In our preliminary view, it would have been an obvious option that the two standards may be the same to inspect the articles after well-known processing operations such as colouring.



Claim 12, 13, 30, 31, 46, and 47 recite that each of the first camera unit and the second camera unit sense a plurality of pellet-shaped articles simultaneously. In column 2, line 62, to column 3, line 10, D4 discloses the feature of cameras sensing multiple articles simultaneously.

Claims 14, 32, 48, and 49 recite that the first predetermined characteristic is at least one of a predetermined colour, a marking, a gel coating, and laser drilled holes. As noted in the CGK section, these features are well-known processing operations and do not involve any inventive ingenuity.

Claim 15 recites that each receiving pocket includes a throughhole that is configured to allow the first camera unit to sense the first side of the pellet-shaped articles that is visible through the throughhole. In column 2, lines 46 to 48, D4 discloses that the receiving pockets hold the tablets around the rim so that the tablets are visible from either side. Therefore, D4 discloses this feature.

Claim 16 recites that the processing unit includes a laser unit to provide laser drilled holes to the articles. D4 discloses this feature in column 4, lines 26 to 29.

Claims 18, 34, and 57 recite that the pneumatic removal mechanism is configured to allow one of the pellet-shaped articles to remain in a corresponding receiving pocket while removing another one of the pellet-shaped articles from a corresponding receiving pocket. D4 discloses this feature in column 3, line 64, to column 4, line 10.

Claim 51 recites that the conveyer mechanism comprises an endless loop trained around two sprockets. It is our preliminary view that the feature is part of a conventional conveying mechanism and is part of the CGK. For example, D8 shows this structure in Fig. 2, and D9 shows this structure in Fig. 2.

Claim 52 recites that the pneumatic removal mechanism is provided on the first side of the conveyer mechanism. D4 discloses this feature in Fig. 1.

Claim 53 to 55 recite that the pellet-shaped articles are guided to the accept bin or the reject bin if the first predetermined characteristic is sensed. D4 discloses that hole or no-hole standard may be selected as predetermined characteristics used by the camera unit to decide whether the articles are guided to the accept bin or the reject bin (column 4, line 11, to column 5, line 42). Similar features are also disclosed by D4 in column 3, line 61, to column 4, line 10, and column 5, line 24 to line 42. Therefore, D4 discloses these features.

Claim 56 recites that a processing unit provided upstream of the first camera unit and structured to perform a specific operation on the pellet-shaped articles. As noted in the CGK section, printing/marketing/labelling

are well-known processing operations on the articles before the articles are inspected for defects. Therefore, it is our preliminary view that this feature would have been obvious to the skilled person.

Since claims 2 to 18, 20 to 34, and 36 to 57 on file are dependent on claims 1, 19, and 35, directly or indirectly, the features of these claims have been considered in combination with the claims to which they refer. Our preliminary view is that the subject-matter of all dependent claims would have been obvious having regard to D4 in view of the CGK.

- [45] The Applicant did not dispute or comment on this analysis and we conclude that claims 1 to 57 on file would have been obvious to the skilled person and do not comply with paragraph 28.3(b) of the *Patent Act*.

#### Indefiniteness

- [46] The PR letter preliminarily considered that claims 33, 40, 41, and 44 were indefinite.

Claim 33 on file is dependent upon claim 19 on file, and recites "wherein each nozzle is associated with a solenoid." However, claim 19 does not mention a nozzle, which causes a lack of clarity.

Claim 40 is dependent upon claims 35 to 39, and recites "the second predetermined characteristic." However, only claims 38 and 39 mention a second predetermined characteristic. Therefore, the term "the second predetermined characteristic" has no antecedents when claim 40 depends on claims 35 to 37. Similarly, the term "the second side" has no antecedents when claim 41 depends on claims 35 to 38, and the term "the controller" has no antecedents when claim 44 does not depend on claim 37.

- [47] The Applicant did not dispute or comment on this analysis and we conclude that claims 33, 40, 41, and 44 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*.

#### Description requirements

- [48] The PR letter also considered that the description did not comply with subsection 57(1) and subsection 59(11) of the *Patent Rules*.

##### *Incorporation by reference*

The description, as received in this office on September 2, 2011, incorporates by reference various U.S. patents in page 12, lines 5 to 7,

and page 16, lines 22 to 23. Therefore, the description does not comply with subsection 57(1) of the *Patent Rules*.

*Reference characters*

The description, as received in this office on September 2, 2011, recites a "shoe 190" in page 28, lines 6 to 15. However, this reference character is not shown in the drawings.

Further, the description recites that Fig. 17 includes a reject bin 22 in page 28, lines 25 to 26. However, Fig. 17 does not show the reference character 22.

Therefore, the description does not comply with subsection 59(11) of the *Patent Rules*.

- [49] The Applicant did not dispute or comment on this analysis and we conclude that the description does not comply with subsection 57(1) and subsection 59(11) of the *Patent Rules*.

Proposed amendments

- [50] The R-FA includes claim amendments. No amendments to the description were submitted. For the proposed claims, the PR letter preliminarily considered that they introduced new matter and would have been obvious, and could not be considered to be a "necessary" amendment under subsection 86(11) of the *Patent Rules*.

The proposed claims include independent claims 1 and 17, and dependent claims 2 to 16 and 18 to 30.

Proposed claim 1 is representative of the independent claims:

1. A conveying and inspecting apparatus for pellet-shaped articles, said apparatus comprising:

a conveyer means to convey a plurality of pellet-shaped articles in a transport direction along a predetermined path, said conveyer means being provided with a plurality of carrier bars each having at least one row of receiving pockets, each of the receiving pockets receiving one of said pellet-shaped articles, and each said row oriented substantially transverse to the transport direction;

at least one processing unit provided along the predetermined path, and structured to provide a first predetermined characteristic to the plurality of pellet-shaped articles;

an accept bin;

a reject bin; and

an inspection unit provided along the predetermined path, downstream from the processing unit, the inspection unit being provided with:

a first camera unit positioned adjacent a first side of the conveyer means for sensing the first predetermined characteristic of each of the plurality of pellet-shaped articles;

a pneumatic removal mechanism positioned downstream from the first camera unit and comprising a vacuum unit and a plurality of nozzles equal to a number of receiving pockets in each row of each of the carrier bars, each of the plurality of nozzles being positioned to remove individual pellet-shaped articles from each corresponding receiving pocket; and

a controller in communication with the first camera unit and the pneumatic removal mechanism, for determining whether the first predetermined characteristic of each of the pellet-shaped articles sensed by the first camera unit is acceptable,

wherein the controller is configured to individually control each of the nozzles of the vacuum unit by providing an accept signal for the vacuum unit to apply suction to each said pellet-shaped article from a selected row having the acceptable first predetermined characteristic and a reject signal to the vacuum unit to not apply suction to each pellet-shaped article from the given row not having the acceptable first predetermined characteristic, the articles that have the predetermined characteristic being sent to the accept bin and the articles that do not have the predetermined characteristic being sent to the reject bin.

Proposed claim 17 recites similar features as claim 1. Proposed claims 2 to 16 and 18 to 30 include the same features as claims 4 to 18 and 22 to 34 on file, respectively.

Since there is no use of language indicating that any one of the features in the proposed claims is optional, a preferred embodiment, one of a list of alternatives, or non-essential, all features presented in the proposed claims are preliminarily considered to be essential to the proposed claims.

*New matter*

Claims 1 and 17 introduce matter that could not be reasonably inferred from the specification or drawings as originally filed. The newly introduced feature of claims 1 and 17 recite:

“a pneumatic removal mechanism positioned downstream from the first camera unit and comprising a vacuum unit and a plurality of

nozzles equal to a number of receiving pockets in each row of each of the carrier bars, each of the plurality of nozzles being positioned to remove individual pellet-shaped articles from each corresponding receiving pocket;

[portion of text omitted]

the controller is configured to individually control each of the nozzles of the vacuum unit by providing an accept signal for the vacuum unit to apply suction to each said pellet-shaped article from a selected row having the acceptable first predetermined characteristic and a reject signal to the vacuum unit to not apply suction to each pellet-shaped article from the given row not having the acceptable first predetermined characteristic, the articles that have the predetermined characteristic being sent to the accept bin and the articles that do not have the predetermined characteristic being sent to the reject bin.”

However, the specification does not disclose that a plurality of nozzles may be used for a removal mechanism that utilizes a vacuum unit. The nozzles mentioned in paragraphs [0059] and [0085] of the present application [as originally filed] are “blower nozzles” that are used to air-eject defective articles, not nozzles for applying suction to vacuum-hold acceptable articles and not applying suction to remove rejected articles.

Therefore, we are of the preliminary view that proposed claims 1 and 17 include new matter and do not comply with [section] 38.2 of the *Patent Act*.

#### *Obviousness*

Although we consider that the proposed claims introduce new matter, we provide our preliminary view on all features of the proposed claims regarding obviousness for completeness.

With respect to the new features of proposed claims 1 and 17, D11 discloses (column 8, lines 7 to 19):

This chamber 68 is supplied with a vacuum to retain the capsule if the capsule has been found acceptable by the control logic, but is supplied with a compressed air blast if the capsule has been found unacceptable. The compressed air, when applied, passes through the air passage 64 and ejects the capsule from its supporting groove into a reject chute 108. If found acceptable, the capsule is retained on its supporting rolls and indexes with them to the accept station. The air passage between the rolls 64 then communicates with the air passage 70 which is continuously supplied with air to eject the capsule into an accept chute [110].

Therefore, D11 disclosed the following features:

- applying suction to pellet-shaped articles having the acceptable first predetermined characteristic,
- sending a reject signal to the vacuum unit to air-eject each pellet-shaped article not having the acceptable first predetermined characteristic, and
- the articles that have the predetermined characteristic are sent to the accept bin and the articles that do not have the predetermined characteristic are sent to the reject bin.

The only difference between the teaching of D11 and the proposed claims regarding the pneumatic removal mechanism is that the rejected articles are air-ejected to the reject bin in D11 instead of being sent to the reject bin by not applying vacuum suction. In our preliminary view, the skilled person would have understood that the vacuum-clamping power may be applied by using individual air tubes or nozzles on each receiving pocket of the conveyer means (see the CGK section). In this case, not applying vacuum suction to selected receiving pockets would have been an obvious design choice for rejected articles instead of using active air-ejecting operation, since the accepted articles are vacuum-clamped in place and later sent to the accept bin. Therefore, it is our preliminary view that this new feature, when considered individually or in combination with the other claimed features, would have been obvious to the skilled person.

As explained above, proposed claims 2 to 16 and 18 to 30 do not introduce any new features over the claims on file and all features of these claims have been discussed above.

Therefore, in our preliminary view, the skilled person would consider that there is no inventive step in the proposed claims having regard to D4 in view of D11 and the CGK, when considered individually or in combination with the other claimed features. Consequently, it is our preliminary view that proposed claims 1 to 30 would have been obvious to the skilled person, and do not comply with paragraph 28.3(b) of the *Patent Act*.

#### *Indefiniteness*

Proposed claim 29, which corresponds to claim 33 on file, is dependent upon proposed claim 17. Since proposed claim 17 recites the nozzles, the indefiniteness defect of claim 33 on file is overcome.

Claims 40, 41, and 44 on file are cancelled in the proposed claims.

Therefore, it is our preliminary view that proposed claims 1 to 30 are definite and comply with subsection 27(4) of the *Patent Act*.

*Description requirements*

There are no proposed amendments to the description or the drawings. Therefore, the incorporation by reference and reference character defects remain.

[51] The Applicant did not dispute or comment on the above preliminary analysis. We conclude that the proposed amendments cannot be considered “necessary” amendments under subsection 86(11) of the *Patent Rules* since the proposed claims introduce new matter and would have been obvious, and there are no proposed amendments to overcome existing description defects.

## CONCLUSIONS

[52] We are of the view that:

- Claims 1 to 57 on file would have been obvious to the skilled person and do not comply with paragraph 28.3(b) of the *Patent Act*;
- Claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*;
- Claims 33, 40, 41, and 44 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*;
- The description incorporates by reference other documents and does not comply with subsection 57(1) of the *Patent Rules*;
- The description refers to reference characters that are not shown in the drawings and thus does not comply with subsection 59(11) of the *Patent Rules*; and
- The proposed amendments contain new matter and obviousness defects, do not overcome the description defects, and thus cannot be considered “necessary” amendments under subsection 86(11) of the *Patent Rules*.

## RECOMMENDATION OF THE BOARD

[53] In view of the above, the Panel recommends that the application be refused on the basis that:

- claims 1 to 57 on file would have been obvious and do not comply with paragraph 28.3(b) of the *Patent Act*;
- claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*;
- claims 33, 40, 41, and 44 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*; and
- the description does not comply with subsection 57(1) and subsection 59(11) of the *Patent Rules*.

[54] Further, the introduction of the proposed amendments does not constitute a “necessary” amendment pursuant to subsection 86(11) of the *Patent Rules*.

Liang Ji

Member

Mehdi Ghayour

Member

Kristina Bodnar

Member



## DECISION OF THE COMMISSIONER

[55] I concur with the findings of the Board and its recommendation that the application be refused on the basis that:

- claims 1 to 57 on file would have been obvious and do not comply with paragraph 28.3(b) of the *Patent Act*;
- claims 2, 20, and 33 on file include new matter and do not comply with section 38.2 of the *Patent Act*;
- claims 33, 40, 41, and 44 on file are indefinite and do not comply with subsection 27(4) of the *Patent Act*; and
- the description does not comply with subsection 57(1) and subsection 59(11) of the *Patent Rules*.

[56] Therefore, in accordance with section 40 of the *Patent Act*, I refuse to grant a patent for this application. Under section 41 of the *Patent Act*, the Applicant has six months to appeal my decision to the Federal Court of Canada.

Konstantinos Georgaras

Commissioner of Patents

Dated at Gatineau, Quebec

This 12<sup>th</sup> day of January, 2023