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Commissioner's Decision #1591
Décision du commissaire nº 1591
Date: 2021-08-13

TOPIC: O00 Obviousness

SUJET: O00 Évidence

Application No. : 2,671,477

Demande nº 2 671 477

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,671,477 having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019 (the former *Patent Rules*), has consequently been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019-251). The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Agent for the Applicant:

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INTRODUCTION

[1] This recommendation concerns the review of rejected Canadian patent application number 2,671,477, which is entitled "Silage Waste Recovery Process, Facility, System, and Product" and is owned by Bertrand Lesperance (the Applicant). A review of the rejected application has been conducted by the Patent Appeal Board (the Board) pursuant to paragraph 199(3)(c) of the *Patent Rules*.

[2] As explained in more detail below, our recommendation is that the Commissioner of Patents refuse the application.

BACKGROUND

The Application

[3] The application was filed under the *Patent Cooperation Treaty* and has an effective filing date in Canada of June 11, 2008. It was laid open to public inspection on December 18, 2008.

[4] The rejected application relates to a silo seepage collection and treatment system. Silo seepage is collected in a storage tank via a drain configured at the bottom of a conventional silo. Also contemplated is a secondary drain for detecting seepage backup and an overflow detector and collector to handle excess seepage that drains from the silo. The collected silo seepage can be used as a source for fermentation technology.

[5] The application has 24 claims on file, which were received at the Patent Office on May 4, 2015.

Prosecution History

[6] On February 8, 2018, a Final Action (FA) was written pursuant to subsection 30(4) of the former *Patent Rules*. The FA states that the instant application is defective on the grounds that:

- claims 1–24 (all claims on file) are obvious and do not comply with section 28.3 of the *Patent Act*; and
- Figure 6 of the drawings does not comply with section 82 of the former *Patent Rules*, now subsection 59(12) of the *Patent Rules*.

[7] In a response to the FA (RFA) dated August 8, 2018, the Applicant proposed an amended set of 24 claims (proposed claims) and submitted arguments addressing the defects raised in the FA.

[8] As the Examiner still considered the application not to comply with the *Patent Act* and the former *Patent Rules*, pursuant to paragraph 30(6)(c) of the former *Patent Rules*, the application was forwarded to the Board on January 23, 2019 for review along with an explanation outlined in a Summary of Reasons (SOR). Specifically, the SOR indicates that, the proposed claims do not overcome the defect raised under section 28.3.

[9] In a letter dated January 28, 2019, the Board forwarded to the Applicant a copy of the SOR and requested that the Applicant confirm its continued interest in having the application reviewed.

[10] The Applicant did not respond to this request.

[11] The present panel (the Panel) was formed to review the instant application under paragraph 199(3)(c) of the *Patent Rules*. The Panel sent a preliminary review letter (PR letter) dated June 18, 2021, which set out our preliminary analysis and opinion that all the claims on file are obvious and do not comply with section 28.3 of the *Patent Act* and that Figure 6 of the drawings and page 20 of the description do not comply with subsection 59(12) of the *Patent Rules*. The PR letter further provided a preliminary analysis of the proposed amendments, indicating that the proposed claims would not overcome the defect raised under section 28.3 of the *Patent Act* and thus could not constitute a necessary amendment in accordance with subsection 86(11) of the *Patent Rules*. The PR letter also provided the Applicant with an opportunity to make oral and/or written submissions.

[12] Since the Applicant did not reply to the PR letter, the Applicant's representative was contacted by phone. On July 30, 2021, the representative confirmed that the PR letter had been received and that no reply would be forthcoming.

ISSUES

[13] In view of the above, the following issues are considered in this review:

- whether claims 1–24 on file are obvious and are therefore non-compliant with section 28.3 of the *Patent Act;* and

- whether Figure 6 of the drawings and page 20 of the description complies with subsection 59(12) of the *Patent Rules*.

[14] In addition to the claims on file, the proposed claims have also been considered.

LEGAL PRINCIPLES AND PATENT OFFICE PRACTICES

Purposive construction

[15] 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.

[16] "Patentable subject-matter under the *Patent Act*" (CIPO, November 2020) [*PN2020–04*] also discusses the application of these principles, pointing out that all elements set out in a claim are presumed essential unless it is established otherwise or such presumption is contrary to the claim language.

Obviousness

[17] Section 28.3 of the *Patent Act* sets out the statutory requirement that the claimed subject-matter must not have been obvious to the person of ordinary skill in the art (POSITA):

> 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 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.

[18] 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";
>
> (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?

Consistent use of reference characters

[19] Section 59 of the *Patent Rules* sets out the requirements for the Drawings. In particular, subsection 59(12) provides for the consistent use of reference characters:

> A reference character used for a particular feature must be the same throughout the abstract, the specification and the drawings.

ANALYSIS OF THE CLAIMS ON FILE

Purposive construction

The claims on file

[20] There are 24 claims on file. On pages 4–6 of the PR letter, we expressed our preliminary view that independent claims 1, 9 and 24 are representative of the claims on file. In the absence of submissions from the Applicant, we adopt them for the purpose of our analysis. Claims 1, 9 and 24 are as follows:

> 1. 1. A facility for obtaining a fermentation product from silage, said facility comprising:
>
> a) at least one silage silo having a bottom;
> b) a collector at said bottom of said silo for collecting a silage juice, said collector including a primary drain from said silo and a drain line;

c) a storage tank for storing silage juice collected by said collector, said storage tank connected to said primary drain of said collector via said drain line;
d) an overflow assembly for controlling an overflow of silage juice draining from said silo, said overflow assembly operative to prevent a backup of silage juice within said silo, and comprising:
    i. a secondary drain, situated at a higher position than the primary drain on said silo, for indicating seepage backup and accumulation within said silo; and
    ii. an overflow tank, connected to and separate from said storage tank, and operative to collect overflow seepage from said storage tank.

9. A process for handling silage seepage generated in a silo, said process comprising:

a) collecting silage seepage from the silo via a primary drain in the silo, said collecting including receiving the silage seepage in a drain line coupled to the primary drain;
b) transferring the silage seepage via the drain line to a storage tank;
c) controlling an overflow of silage seepage draining from the primary drain into the storage tank, said controlling including:
    i. detecting, at a secondary drain in the silo, seepage backup and accumulation within the silo, the secondary drain situated at a higher position than the primary drain on the silo; and
    ii. transferring overflow seepage from the storage tank to an overflow tank for preventing a backup within the silo of the draining silage seepage, the overflow tank connected to and separate from the storage tank;
d) processing the collected silage seepage by fermentation to produce a value product.

24. A system for treating silage seepage, said system comprising:

a) at least one silage silo having a bottom, the silage silo being a tower silo having an aperture in said bottom;
b) a collector at said bottom of said silo for collecting a silage juice, said collector including at least one primary drain from said silo and a drain line coupled to said at least one primary drain, said collector further including a floor pan located in said silo, said floor pan fitted to the bottom of said silo and covering said bottom aperture to prevent egress of silage juice from said silo into surrounding foundation soil;
c) a storage tank for storing silage juice collected by said collector, said storage tank connected to said at least one primary drain of said collector via said drain line

including at least one filter assembly for filtering said silage juice prior to its storage in said storage tank, wherein said collected silage juice can be processed by one of fermentation and separation to produce a value product;

d) an overflow assembly for controlling an excess of silage juice draining from said at least one primary drain in said silo to said storage tank, said overflow assembly including:

iii. a secondary drain at a higher position on said silo than said at least one primary drain for indicating silage juice backup and accumulation within said silo; and

iv. an overflow tank separate from and connected to said storage tank, said overflow tank operative to collect overflow seepage from said storage tank when said storage tank is full.

[21] The dependent claims 2–8 and 10–23 define further limitations with regard to: location of the storage tank, filtering of the silage juice, features of the storage tank, features of the collector, presence of a pump for moving seepage to the storage tank, type of value product produced, and means of processing silage seepage.

The POSITA and the relevant CGK

[22] In the PR letter, on page 6, we adopted the characterizations of the POSITA and the CGK used in the FA, which had not been disputed by the Applicant in the RFA. The POSITA and the relevant CGK were characterized as:

> In the present case, the patent application appears to be directed to a team of farm technicians who have technical experience in silos, silage via fermentation and silo juice seepage.
>
> The problem of silo juice seepage and draining effluent from farms silos is generally known. Thus it is common general knowledge to connect a silo to a storage tank via drains to handle effluent seepage from silos. The manipulation, modification, and use of silage seepage are also common general knowledge.

[23] In the absence of submissions from the Applicant, we adopt these characterizations for our analysis.

Essential elements

[24] On page 6 of the PR letter, we expressed our preliminary view on the essential elements of the claims:

> Consistent with the practice guidance provided in *PN2020-04*, there is no use of language in the claims indicating that any of the elements are optional, a preferred embodiment or one of a list of alternatives. Although claims 5 and 19 list a number of environmental controls as alternatives, where at least one of them is used, those controls are essential elements of the claims. Likewise, in claim 14 which lists a number of additives as alternatives, where at least one of them is used, those additives are essential elements of the claim. Therefore, our preliminary view is that the POSITA would consider all of the elements in the claims to be essential.

[25] In absence of submissions from the Applicant, we maintain the above identification of the claim elements that are essential in this recommendation.

Obviousness

[26] All 24 claims on file were rejected in the FA for obviousness.

The POSITA and the relevant CGK

[27] The POSITA and the relevant CGK have been set out above as part of the purposive construction of the claims. The above identification of the relevant CGK as of the publication date is also considered to be valid as of the claim date and thus applicable for the purpose of assessing obviousness.

Identify the inventive concept of the claim in question or, if that cannot readily be done, construe it

[28] In the PR letter, at page 7, we agreed with the inventive concept identified in the FA. We noted as well that the Applicant did not indicate disagreement with this assessment in the RFA. Accordingly, we adopt the following as representative of the inventive concept for all the claims on file:

> According to the applicant, the inventive concept of the instant claims is the presence of an "overflow assembly" comprising a secondary drain situated at a higher position than the primary drain (to indicate seepage backup) and an overflow tank connected to and separate from a storage tank, for controlling excess silage juice from the silo via a drain to prevent accumulation of the silage juice within the silo.

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

[29] In the PR letter, the following document was identified as being representative of the state of the art in respect of the claims on file:

D7: Clarke S. and Stone R. Fact Sheet: How to handle seepage from farm silos. Order No. 04-031; Printed May 2005, Ontario Ministry of Agriculture and Food. Nov. 2004.

[30] D7 discusses the environmental concerns associated with silage seepage contaminating ground water as a result of improper or inadequate collection and retention of the seepage draining from silos. D7 discloses various means of handling and treating the contaminating effluent involving collection and storage/treatment systems. D7 specifically discloses options for managing seepage including the use of: tile drains to seepage storage; holes in silo walls to an exterior drain to seepage storage; and, multiple floor drains which collect and deliver seepage and overflow runoff to a catch basin that drains to a long term storage tank or a vegetated filter strip, respectively (see Figures 2 and 5–7). Finally, D7 provides design criteria for the sizing of seepage tanks to contain both seepage and runoff based on the type and size of silo.

[31] In addition, the following five references were cited in the FA to address limitations in the dependent claims:

D1: Galanos et al., "The aerobic treatment of silage effluent: Effluent characterization and fermentation", *J. Agric. Engng. Res.*, 62, Pages 271-279, 1995.

D2: Barry and Colleran, "Anaerobic digestion of silage effluent using upflow fixed bed reactor", *Agric. Wastes*, 4, Pages 231-239, 1982.

D3: Dunlea and Dodd, "The application of membrane filtration to silage effluent", *Can. Agr. Eng.*, 31/1, Pages 39-43, 1989.

D4: Arnold et al., "The use of yeasts to reduce the polluting potential of silage effluent", *Wat. Res.*, 34/15, Pages 3699-3708, 2000.

D6: US 20030008363 Ingram and Barbosa-Alleyne 9 January 2003 (09-01-2003)

[32] On page 8 of the PR letter we identified the differences between the inventive concept of the claims and D7 as follows:

> Further, in our preliminary view, the differences between the inventive concept of the claims on file and D7 are:
>
> - D7 does not disclose an "overflow assembly" comprising a secondary drain situated at a higher position than the primary drain (to indicate seepage backup) and an

> overflow tank connected to and separate from a storage tank, for controlling excess silage juice from the silo via a drain to prevent accumulation of the silage juice within the silo.

[33] In absence of submissions from the Applicant, we maintain the above identification of the differences between the prior art and the claims on file for our analysis.

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?

[34] According to the FA on page 4, although D7 does not disclose an overflow assembly as claimed, D7 does provide various means of accounting for overflow seepage:

> For example, D7 independently discloses various silos with drainage facilities for collecting and storing seepage in tanks in order to manage silo seepage and additional effluent. D7 also discloses storage tank and one or more silo drains that drains into a storage tank. In Figures 2, 5 and 6, D7 discloses various designs for draining seepage using tile drain, holes in the wall to drain seepage, a catch basin that collects seepage and drains to a long term storage tank in addition to the disclosure about diluted flow and overflow seepage.

[35] In particular, the FA notes on page 5 that the inclusion of a secondary overflow tank that is separate but connected to a storage tank requires no inventive ingenuity in view of the design criteria for the sizing of seepage tanks to contain both seepage and runoff based on the type and size of silo taught in D7:

> It is further noted that D7, in the section entitled 'Sizing of small seepage tanks' discloses criteria to be used to provide for an adequately sized seepage tank in the first place. A POSITA when faced with a situation where a storage tank is for whatever reason not sufficient to hold the effluent, would simply add an additional storage tank or replace the existing storage tank with a larger capacity tank. This requires no inventive ingenuity. No advantage to such an addition has been disclosed beyond the expected addition of more storage capacity to prevent backup and accumulation of silage juice within the silo. Indeed, the secondary overflow tank is described as 'optional' on page 19, line 23 of the instant description. In short, it is obvious to increase storage capacity when current storage capacity is being exceeded, by adding to the existing storage capacity.

[36] The FA, on page 5, also indicates that the presence of a secondary drain for indicating seepage backup does not require any degree of inventiveness since it is *prima facie* obvious to the POSITA:

> In addition to the obvious secondary storage tank, the overflow assembly in the instant application comprises an ordinary drain which is shown as 27 in Fig. 5 which simply shows a secondary drain/pipe above the primary drain on the silo. This embodiment is only

> discussed on page 19 lines 11-22 where it is described as providing 'an indication of seepage accumulation within the silo'. The addition of this second and commonly known ordinary drain or pipe above the primary drain does not require any degree of inventiveness since it is prima facie obvious to a person skilled in the art. Applicant has not provided any new design or modification to a pipe/drain and has not engineered a new overflow assembly. As such it is just an ordinary pipe added on top of an existing one on the silo. In terms of acting as an 'overflow detector' (page 19, line 11), a silo overflowing its top would act as a visual indicator that a silo has exceeded its capacity. A POSITA wanting to detect if a silo is exceeding a lower level within the silo would be motivated to create an opening or an outlet (for example fitted with a pipe, ideally with a valve if it was on occasion desired to allow filling beyond the level of the pipe) from which the seepage would visually indicate the silo had reached the level of the pipe. The mere addition of an ordinary pipe to a silo does not require any degree of inventiveness.

[37] The RFA on page 9 disagrees with this assessment:

> The Applicant respectfully disagrees with this finding. Nowhere in the prior art references is it mentioned or suggested to detect and control an excess of silage seepage building up within the silo as this seepage drains out of the silo into a storage tank. Though the prior art systems and facilities deal with how to drain and collect seepage from a silo, the inventors discovered that even with such drainage/collection solutions, a problem still remained, notably back up of slow-draining seepage within the silo, creating an overflow of seepage within the silo beyond a tolerable limit and leading to the leakage of this overflow seepage out the sides of the non-watertight silo. **Neither this problem, nor the overflow assembly solution claimed in the present application, are described in, suggested by or inferred from the cited prior art references.** [Emphasis in original]

[38] In the PR letter, we expressed our preliminary view on pages 10–12 that the POSITA would be aware of the problem and would have been able to bridge the differences between the cited prior art and the claims on file using the relevant CGK. We noted firstly that D7 discloses that most of the environmental problems associated with silage seepage on farms result from the improper or inadequate collection and retention of the seepage draining from silos (see INTRODUCTION). In addition, we noted the BACKGROUND of the application specifically acknowledges on page 2 that:

> When stored in a silo, gravity causes high pressure on the silo contents at the bottom of the full silo and a combination of this pressure and the effect of gravity over time causes a high percentage of the water to drip out of the silo contents or silage. The silage thus generates liquid effluent waste ("silage juice") during storage and this liquid collects at the bottom of the silo. The rate of liquid generation is surprisingly fast in the days and weeks following harvest and initial storage in the silo. The volume of seepage varies with the moisture content of the crop, and can be from 300L to 700L per ton. Normally a drain is provided at the bottom of the silo for keeping the bottom dry, and an overflow drain pipe may lead from the drain area to an auxiliary drain area next to the silo. The liquid waste is generally toxic however and pollutes the ground and water with which it comes into contact. **In many cases,**

> **the silo is not watertight, and a portion of this liquid does not go into the central drain pit. Instead, the liquid level rises and leaks from the silo side wall into the ground at the silo foundation**. [Emphasis added]

[39] In view of the above, it was our preliminary view that, at the claim date, the POSITA was aware of the need to design adequate collection and storage/treatment systems to prevent seepage from contaminating the surrounding land and water. Furthermore, it was our preliminary view that this would include the design of silage seepage systems to accommodate silos with inadequate storage tanks, as well as inadequate floor draining that could lead to leaking of effluent from the side wall of a silo that is not watertight.

[40] In this regard, we noted that D7 provides design criteria for the sizing of seepage tanks to contain both seepage and runoff based on the type and size of silo. We agreed with the assessment in the FA: "A POSITA when faced with a situation where a storage tank is for whatever reason not sufficient to hold the effluent, would simply add an additional storage tank or replace the existing storage tank with a larger capacity tank."

[41] With regard to the presence of a secondary drain, situated at a higher position than the primary drain, we noted that D7 discusses that silage seepage is not only a concern as a contaminant of the ground and water, but also because silage juices can cause corrosion and deterioration of the silo (i.e. resulting in a silo that is not watertight). Additionally, we noted that D7 provides for the use of multiple drains for the collection of seepage. In particular, D7 refers to the use of a collector drain at the bottom of the silo, as well as the use of an external drain to seepage storage (see Figure 7). As illustrated in Figure 7, one option for managing silo seepage is to forms holes in the wall to drain silo seepage to an outside drain. Although this is presented as an option for new silos, the POSITA would recognize that in cases where silage storage is inadequate and/or internal drainage of the silo through floor drains is poor, an external secondary drain in the wall of the silo (i.e. at a higher elevation than the primary floor drain) would be an obvious means to detect a backup of silage juice in order to prevent corrosion and deterioration of the silo and any resultant leakage of overflow seepage through the silo's side wall.

[42] In light of the above, it was our preliminary view that the POSITA would have considered that a silage seepage system that combines the use of a primary floor drain, connected to a storage tank and an overflow tank, along with a secondary external drain in the silo side wall, to be an obvious solution to a silo facility that has an improper or inadequate collection and storage/treatment system. Moreover, it was our preliminary view that the POSITA would have considered the presence of a secondary external drain to be an

obvious means to detect the backup of corrosive silage juices, caused by inadequate silage storage and/or poor floor drainage, that could lead to deterioration of the silo and/or leak out of a silo that is not watertight.

[43] Further, we explained that there is no indication or suggestion in the specification or the CGK that an overflow assembly comprising a primary floor drain connected to a storage tank and an overflow tank, as well as a secondary external drain gives rise to a surprising or unexpected result. As explained on page 5 of the FA:

> Further the drain and overflow storage tank do not act in combination in an unobvious way. When the storage capacity of a storage tank and an overflow tank is exceeded, the silage juice will backup and fill the silo until the second drain pipe is reached at which point the toxic overflow will spill onto the surrounding foundation and or soil resulting in a problem the facility was allegedly trying to avoid (for example refer to the description, page 4, lines 10-12).

[44] Additionally, it was noted that the overflow tank and the secondary drain do not need to act in combination at all. Indeed, in cases where the internal drainage of the silo is poor, the seepage level will rise in the silo until it reaches the secondary external drain providing an indication that there is a backup and accumulation of overflow seepage within the silo. In such cases the overflow of seepage through the secondary drain occurs independently of whether the extra capacity of the overflow tank has been breached. Therefore, it was our preliminary view that no degree of invention would have been required from the POSITA to design a silage seepage system comprising an overflow assembly as claimed.

[45] Accordingly, it was our preliminary view that the differences between the inventive concept of independent claims 1, 9 and 24 and D7 are not steps which would require any degree of invention from the POSITA in view of their CGK.

[46] We further considered that dependent claims 2–8 and 10–23 define further limitations with regard to: the location of the storage tank, features of the storage tank, the type of silo, features of the collector, the presence of an additional pump for moving seepage to the storage tank, the presence of automated control for portions of the facility and processing of the collected seepage (see D1–D4 and D6), which are CGK design options based on the targeted fermentation process and product. It was our preliminary view that none of these features would have required any degree of invention from the POSITA either.

[47] In view of the above, and in the absence of a response from the Applicant, we therefore adopt the foregoing preliminary views and conclude that the claims on file define subject-

matter that would have been obvious to the POSITA, as of the relevant date, in view of D7 when taken together with any of D1–D4 and D6 and their CGK, contrary to section 28.3 of the *Patent Act.*

Consistent use of reference characters

[48] According to the FA, Figure 6 of the drawings does not comply with section 82 of the former *Patent Rules*, now subsection 59(12) of the *Patent Rules*:

> The same reference character should be used to denote the same feature throughout the application. In Figure 6 (and page 20 lines 15-17 of the description) the secondary storage tank is referred to as '27' whereas in Figure 5 (and page 19, lines 15 and 20) '27' refers to the secondary *drain* (note that the secondary storage is referred to as '25' in Figure 5 and on page 19, line 14 of the description). Thus it appears that in Figure 6 (and page 20 lines 15-17 of the description) '27' should be changed to '25' when referring to the secondary storage. [Emphasis in original]

[49] Having reviewed the description and drawings, we agreed in the PR letter that there is an inconsistent use of reference characters to denote the secondary storage tank. We also noted that in the RFA the Applicant did not contest or comment on this defect and instead submitted proposed amendments to Figure 6 and page 20 of the description to address the defect. Therefore, it was our preliminary view that Figure 6 and page 20 lines 15–17 of the description do not comply with subsection 59(12) of the *Patent Rules*.

[50] In absence of submissions from the Applicant, we maintain the foregoing views and find that Figure 6 and page 20 lines 15–17 of the description do not comply with subsection 59(12) of the *Patent Rules*.

ANALYSIS OF THE PROPOSED AMENDMENTS

[51] As indicated above, with the RFA the Applicant submitted proposed claims 1–24. According to page 2 of the RFA, proposed claims 1, 9 and 24 have been amended to clarify the subject-matter being claimed.

[52] According to the SOR, at page 2, the amendments are insufficient to overcome the obviousness defect:

> In their response of 8 August, 2018 to the Final Action, applicant has amended claims for clarity purposes. However, the essence of the alleged invention is still the same. It is characterized by an overflow assembly for detecting and controlling an excess of silage juice within the silo comprising **a secondary drain** situated in a side wall at a higher elevation

> than collector of the silo and thus at a higher elevation than the primary drain on the silo. The flow of silage juice from the secondary drain indicates seepage backup and accumulation within the silo. The overflow tank is considered part of the "overflow assembly". The amended claims do not add any features to overcome the obviousness defect raised in the Final Action. [Emphasis in original]

[53] In the PR letter we presented our preliminary view that the subject-matter of the claims on file would have been obvious to the POSITA, as of the relevant date, in view of D7 when taken together with any of D1–D4 and D6 and their CGK. Further, we indicated that we considered that the secondary drain is situated in the side wall of the silo and is therefore necessarily higher than the collector which is present in the bottom of the silo. The additional feature in the proposed independent claims can also be addressed by the reasons given with respect to the claims on file. Specifically, the recitation of a valve activatable to close the secondary drain would have been an obvious modification to include to prevent seepage overflow from contaminating the surrounding land and water, as taught by D7.

[54] We noted, likewise, that the description (page 17, lines 11–22) is clear that alternatives and modifications to the silo seepage collection and treatment system components are design options that would require no degree of invention from the POSITA:

> The above arrangement can be altered to include an overflow detector and collector to handle excess seepage that drains from the silo. For example, as shown in Figure 5, the storage tank 13 could be fitted with a secondary overflow 25 tank to prevent backup and accumulation of silage juice within the silo. The silo itself can be fitted with a secondary drain 27 at a higher elevation than the first primary drain to provide an indication of seepage accumulation within the silo. The arrangement shown excludes the valve and filter assembly for clarity; **it will be appreciated that a wide variety of configurations are possible for controlling the flow of seepage from the silo 3**. In addition, the secondary drain 27 could also be provided with a valve, to prevent seepage from running through this opening during early seepage collection. [Emphasis added]

[55] Accordingly, it was our preliminary view that the proposed claims, like the claims on file, define subject-matter that would have been obvious to the POSITA, as of the relevant date, in view of D7 when taken together with any of D1–D4 and D6 and their CGK.

[56] We also noted that proposed amendments to Figure 6 and page 20 of the description were also submitted with the RFA. Having reviewed the proposed amendments, we agreed in the PR letter that they overcome the defect raised under section 82 of the former *Patent Rules*, now subsection 59(12) of the *Patent Rules*.

[57] However, as it was our preliminary view that that proposed claims 1–24 are obvious and do

not comply with section 28.3 of the *Patent Act*, we indicated in the PR letter that the proposed amendments do not meet the requirements of a necessary amendment under subsection 86(11) of the *Patent Rules*.

[58] In view of the above and in the absence of a response from the Applicant, we therefore adopt the foregoing preliminary views and conclude that the proposed amendments do not meet the requirements of a necessary amendment under subsection 86(11) of the *Patent Rules*.

RECOMMENDATION OF THE BOARD

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

- claims 1–24 are obvious and do not comply with section 28.3 of the *Patent Act*; and
- Figure 6 of the drawings and page 20 of the description do not comply with subsection 59(12) of the *Patent Rules*.

Christine Teixeira	Marcel Brisebois	Ryan Jaecques
Member	Member	Member

DECISION OF THE COMMISSIONER

[60] I concur with the findings of the Board and its recommendation to refuse the application on the basis that:

- claims 1–24 are obvious and do not comply with section 28.3 of the *Patent Act*; and
- Figure 6 of the drawings and page 20 of the description do not comply with subsection 59(12) of the *Patent Rules*.

[61] Accordingly, 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.

Virginie Ethier
Assistant Commissioner of Patents

Dated at Gatineau, Quebec

this 13th day of August, 2021.