

Citation: Enercorp Engineered Solutions Inc (Re), 2024 CACP 4

Commissioner's Decision #1663

Décision du commissaire n° 1663

Date: 2024-02-23

TOPIC:    A11    New Matter  
             B00    Ambiguity or Indefiniteness (incomplete)  
             C00    Adequacy or Deficiency of Description  
             F00    Novelty  
             O00    Obviousness

SUJET :    A11    Nouvelle matière  
             B00    Caractère ambigu ou indéfini (incomplet)  
             C00    Caractère adéquat ou inadéquat de la description  
             F00    Nouveauté  
             O00    Évidence

Application No. 2929643

Demande n° 2 929 643

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,929,643, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96–423), has subsequently 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:

**ROBIC IP AGENCY LP**

630 René-Lévesque Boulevard West

20th floor

Montréal, Québec

H3B 1S6

## **INTRODUCTION**

- [1] This recommendation concerns the review of rejected patent application number 2,929,643, which is entitled “Apparatus, system and method for separating sand and other solids from oil and other fluids” and is owned by Enercorp Engineered Solutions Inc. The Patent Appeal Board (the Board) has reviewed the rejected application pursuant to paragraph 199(3)(c) of the *Patent Rules* (SOR/2019–251). As explained below, we recommend that the Commissioner of Patents refuse the application.

## **BACKGROUND**

### **The application**

- [2] The application has a filing date of January 12, 2015 and has been open to public inspection since October 11, 2015.
- [3] The application concerns a filtering apparatus and method for separating fracturing or “fracking” sand from oil and gas. More specifically, a knock-out baffle is placed near the outlet of a pressure vessel to filter solids not already settled by gravity as they exit the vessel. This is a divisional of the original Canadian patent application 2,877,020.

### **Prosecution history**

- [4] On June 6, 2019, a Final Action rejecting claims 1–27 was issued pursuant to subsection 30(4) of the *Patent Rules*. The Final Action indicates that the application is defective on the following five grounds: i) certain claims and description pages contain new matter that is not reasonably inferred from the original specification or drawings; ii) the description does not correctly and fully describe the invention; iii) all of the claims are directed to subject-matter that would have been obvious; iv) certain claims are indefinite; and v) one claim contains interlineations.

- [5] In a December 6, 2019 response to the Final Action, the Applicant proposed a new set of amended claims that were said to substantially correspond to claims that were allowed in the corresponding U.S. Patent Application Serial No. 15/667,060. Corresponding amendments to replace pages 8b and 8c of the description with pages 8b–8e were also proposed to reflect the wording of the proposed claim amendments. The response also provided arguments in favour of the patentability of the proposed set of amended claims. The Examiner was not persuaded by the amendments and arguments that were proposed in that response letter and so the application was forwarded to the Board for review on January 5, 2021 along with an explanation outlined in a Summary of Reasons.
- [6] The Board forwarded the Summary of Reasons to the Applicant on January 15, 2021. In a response dated April 9, 2021, the Applicant expressed continued interest in having the application reviewed by the Board.
- [7] This Panel was formed to review the rejected application and make a recommendation to the Commissioner as to its disposition.
- [8] In a preliminary review letter dated May 18, 2023 we set out our preliminary views disagreeing with the Final Action that claims 4, 21, 22, 26 and 27 and description pages 8a and 8b contain new matter or that the description was insufficient insofar as it relates to these claims, and further disagreeing that claims 19–22 and 25 were indefinite. We also set out preliminary views agreeing with the Final Action that: that the subject-matter of all of claims 1–27 on file is obvious in view of document D1 in light of the common general knowledge (CGK), contrary to section 28.3 of the *Patent Act*. In addition, we set out our preliminary views that the subject-matter of claims 6 and 27 is indefinite, contrary to subsection 27(4) of the *Patent Act*, and that page 38 contains an interlineation, contrary to subsection 68(1) (now 13(1)(c)) of the *Patent Rules*. Pursuant to subsection 86(9) of the *Patent Act*, we also notified the Applicant that additional questions arose during our review as to whether D1 is also relevant to anticipation and whether Canadian application number 2,041,479 to Martin (retrieved during the review) is relevant to obviousness. We provided a preliminary analysis of these issues and expressed our preliminary views that the

subject-matter of claims 6 and 7 is anticipated by document D1 and that all of the claims on file are further obvious in view of Martin in light of the CGK. In our letter we proposed a hearing date of June 29, 2023 and invited the Applicant to make oral and written submissions in response to our letter.

[9] The Applicant did not respond to our letter by the deadline provided and so we contacted the Applicant by telephone, leaving a voicemail message on June 20, 2023. The Applicant responded on June 22, 2023, confirming in a voicemail message that they would not be providing any oral or written submissions in response to our letter and that they intended to abandon the application.

[10] We have completed our review and have set out our conclusions below.

**THE ISSUES ARE NEW MATTER, SUFFICIENCY OF DISCLOSURE, ANTICIPATION, OBVIOUSNESS, INDEFINITENESS AND PROPER PAGE FORMAT**

[11] This review considers whether or not: claims 4, 21, 22, 26 and 27 and description pages 8a–8b contain new matter that is not reasonably inferred from the original specification or drawings contrary to section 38.2(3.1) of the *Patent Act*; the description correctly and fully describes the invention as required by subsection 27(3) of the *Patent Act*; the subject-matter of claims 6 and 7 is anticipated contrary to paragraph 28.2(1)(b) of the *Patent Act*; claims 1–27 are directed to subject-matter that would have been obvious contrary to section 28.3 of the *Patent Act*; claims 6, 19–22, 25 and 27 are indefinite contrary to subsection 27(4) of the *Patent Act*; and claim 3 on page 68 contains interlineations contrary to paragraph 13(1)(c) of the *Patent Rules*.

## PURPOSIVE CONSTRUCTION

### Legal principles

- [12] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66 and *Whirlpool Corp v Cameo Inc*, 2000 SCC 67 [*Whirlpool*], purposive construction is performed from the point of view of the person skilled in the art in light of the relevant 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.
- [13] We consider that all elements set out in a claim are presumed essential unless it is established otherwise or where such presumption is contrary to the claim language.

### Analysis

#### *The claims on file*

- [14] The claims set on file contains claims 1–27. Claims 1, 6, 19–22, 25 and 27 are the independent claims. Independent claims 1, 19–22, 25 and 27 are all directed to a filtering apparatus for separating solids from a hydrocarbon fluid, and independent claim 6 is directed to a method for separating solids from a fluid. Claims 1 and 6 are illustrative:
1. A filtering apparatus for separating solids from a hydrocarbon fluid, the filtering apparatus comprising:
    - (a) a pressure vessel extending generally along a longitudinal length and having a chamber with an inlet and outlet communicating with

said chamber; said inlet being adapted to receive said solids and hydrocarbon fluid into said chamber; and

- (b) a hydrate-knock-out baffle inside said pressure vessel and adjacent said outlet and having a first portion disposed generally parallel to said longitudinal length and a second portion disposed generally perpendicular to said longitudinal length to filter out a filtered portion of said solids from said hydrocarbon fluid.

6. A method for separating solids from a fluid, the method comprising:

- (a) introducing a fluid containing said solids into an inlet of a pressure vessel;
- (b) knocking out a portion of said solids that strike a hydrate-knock-out baffle to a bottom of said vessel; the hydrate-knock-out baffle being disposed in said vessel adjacent said outlet and;
- (c) filtering a portion of said remaining solids in said fluid.

[15] Independent claims 19–22, 25 and 27 further define the configuration of the baffle (claims 19, 20), that the baffle is or comprises a perforated plate (claims 21, 22, 25) and that the baffle comprises a perforated portion and an imperforated portion (claim 27).

[16] Dependent claims 2–5, 7–18, 23, 24 and 26 define further limitations relating to sizing of the inlet and chamber (claim 2), a second horizontal or vertical screen chamber (claims 3, 5, 8–18, 23 and 24), the baffle (claims 4, 26) and the nature of the fluid (claim 7).

### *The person skilled in the art*

[17] We characterized the skilled person as follows on page 5 of our letter:

On page 5, the Final Action defined the skilled person as an oil and gas process engineer and a drilling engineer. The Applicant's response to the

Final Action did not dispute or comment on this characterization. In our preliminary view, it is reasonable to define the skilled person as a team comprising an oil and gas process engineer and a drilling engineer.

- [18] The Applicant did not contest or comment on this characterization in response to our letter. We therefore adopt this characterization for the purposes of our analysis.

### *The common general knowledge*

- [19] We characterized the CGK as follows on pages 5–8 of our letter:

On page 6, the Final Action characterized the CGK as comprising a list of information although no evidence was provided supporting that the information would have been part of the skilled person's CGK. The Applicant's response to the Final Action did not comment on, contest or dispute that any of the information provided in the list was part of the skilled person's CGK.

The principles governing the assessment of CGK were stated in *Eli Lilly & Co v Apotex Inc*, 2009 FC 991 at para 97, upheld by 2010 FCA 240, citing *General Tire & Rubber Co v Firestone Tyre & Rubber Co Ltd*, [1972] RPC 457, [1971] FSR 417 (UKCA) at pages 482 and 483 (RPC). In sum, CGK is a concept derived from a common sense approach to the practical question of what would in fact be known to an appropriately skilled addressee. Generally, scientific articles form part of the CGK provided they are generally known and generally regarded as a basis for further action by the bulk of those who are engaged in a particular art.

Established reference works (such as textbooks, review articles, handbooks, etc.) or demonstrated commonality of certain knowledge in a number of disclosures in the field are relevant to the inquiry: (see *MOPOP* at § 12.02.02c).

In order to ascertain whether or not this knowledge was CGK as of the date that the application was published we consulted the following two handbooks that were both published in 2008 (more than five years before the publication date and claim date):

Ken Arnold & Maurice Stewart, *Surface production operations: design of oil handling systems and facilities*, Volume one, Third edition (Burlington, MA: Gulf Professional Publishing and Elsevier Ltd, 2008).

Ken Sutherland, *Filters and filtration handbook*, Fifth edition (Oxford: Butterworth–Heinemann and Elsevier Ltd, 2008).

In our preliminary view, these handbooks support that the following information set out on page 6 of the Final Action would have been CGK of the skilled oil and gas process engineer and drilling engineer:

- removal of sand from process fluid using velocity knock-out tubes (currently claimed as a pressure vessel) and wire-wrapped slotted screen filters (Arnold & Stewart pages 152–156, 163–164 and 203, Figure 4-2; Sutherland pages 64, 66–67, 81–82, 107, 111–112, Figures 2.7, 2.18 and 3.11);
- filtration vessels containing removable filter cartridges (Arnold & Stewart pages 163–164, 649–652; Sutherland page 82);
- increasing the residence time of treated fluids in separators via velocity reduction to allow heavier particulates to settle (Arnold & Stewart pages 154, 205, 209–212; Sutherland pages 452–453)
- using baffles within velocity knock-out tubes (description, page 2; Arnold & Stewart pages 153–155, 169–172, 176–185, Figures 4-2, 4-4, 4-15, 4-17, 4-19 and Figure 10-7 on page 638)
- configuring baffles with various orientations, layouts, geometric shapes, and surface features, such as perforations, and having multiple surfaces at different angles directing the flow of fluid

(Arnold & Stewart pages 153–155, 164, 169–172, 178–184, 189, Figure 4-2, 4-4, 4-12, 4-15, 4-17, 4-19, 4-27, 4-38, pages 543–544 and Figure 9-25 on page 547);

- providing baffles perpendicular to the direction of flow to cause the treated fluid to impinge on them (Description page 19; Arnold & Stewart pages 153, 169–172, Figures 4-2, 4-15, 4-17, 4-19; Sutherland page 485);
- positioning baffles within separators relative to the inlets and outlets to control the flow of fluid there through, to direct fluid away from the outlet and to increase the length of the flow path (Arnold & Stewart 153–155, 169, 171–172 and 178–184, Figures 4-2, 4-15, 4-17, 4-19, 4-27);
- orienting baffles to provide a tortuous flow path for the treated fluid and cause the precipitation of solids from the fluid (Description page 19; Arnold & Stewart page 154, 169–172; 178–182, Figures 4-19, 4-25, 4-26, 4-28 and 4-38); and
- including multiple separation stages using sedimentation and filtration methods to remove increasingly finer particles or particles having different physical characteristics from the treated fluids (Arnold & Stewart pages 152–156 and 203).

Our preliminary view is that the following knowledge is also relevant and would have been part of the CGK:

- gas-liquid separators generally contain a gravity settling section that is sized so that droplets larger than a selected size fall to the gas-liquid interface and smaller droplets remain in the gas stream (Arnold & Stewart pages 152–154, Figures 4-2 and 4-3; pages 203–205; procedure for sizing horizontal separators pages 212–213);
- the selected size is generally 100–140  $\mu\text{m}$  since anything larger can overload mist extractors at the outlet (Arnold & Stewart page 154);

- mist extractors, such as baffles, mist pads and wire-mesh cartridge filters, are used for removing smaller liquid droplets and solid particles from the gas stream (Arnold & Stewart pages 176–186);
- selecting the appropriate mist extractor for a given application considers the characteristics of the fluid, the system requirements and cost (Arnold & Stewart page 190);
- most filter media made from metal is in the form of woven wire or perforated sheets and is used to separate solid particles by size or for the coarse screening of gas or liquid flows ahead of some finer processing stage (Sutherland pages 66, 67)
- perforated plates find particular applications as filters, screens or strainers (Sutherland, pages 76–78);
- filter media made from metal such as stainless steel, including woven wire and perforated sheets or plates, is commonly used in separators and filter cartridges given their high strength and resistance to corrosion and abrasion (Sutherland pages 64, 66–67, 76–82, 100, 107–112, especially Figures 2.7, 2.14, 2.18, 3.11; Arnold & Stewart pages 163–164 and 530);
- common effective screens include those made from “V”-shaped wedge wire wrapped around the outer face of a perforated cylinder or pipe such that the wires are parallel to one another creating channels (Sutherland pages 81, 82, 111–112, Figure 2.18);
- wedge wire may also be wrapped around vertical bars or ribs that are mounted on the outer surface of the perforated pipe to facilitate free entry of fluid over the entire exposed surface of the screen to increase its efficiency (Sutherland page 112);

- mist extractors can be installed inside a pressure vessel or placed inside a separate filtration vessel of its own (Arnold & Stewart pages 185, 546);
- separate filtration vessels are commonly used to remove solid particles, such as sand or hydrates, and small liquid droplets from the gas stream in applications where conventional gravitational separators alone are ineffective, such as in fuel gas applications (Arnold & Stewart page 163);
- since cartridge filters have low solids-loading capacities it is common to install them downstream of primary solids removal equipment (Arnold & Stewart pages 650–651); and
- from a pure gas/liquid separation process horizontal separators are preferred but they take up a lot of plan area, so when more than one is needed this disadvantage is overcome by stacking one on top of the other (Arnold & Stewart pages 166–167).

Subject to any comments or clarifications the Applicant wishes to make, we intend to adopt the above characterization for the purposes of our analysis.

[20] The Applicant did not contest or comment on this characterization in response to our letter. We therefore adopt this characterization of the CGK for the purposes of our analysis.

### *Essential elements*

[21] We said the following on page 9 of our letter:

As mentioned above, we consider that all of the elements set out in a claim are presumed essential unless it is established otherwise or such presumption is contrary to the claim language. In our view, the skilled person reading claims 1–27 in the context of the specification as a whole and the CGK would understand that there is no use of language in the

claims indicating that any of the elements are optional, preferred or were otherwise intended as being non-essential. Our preliminary view is therefore that all of the elements of claims 1–27 are essential.

- [22] The Applicant did not contest or comment on this view in response to our letter. We therefore consider all of the elements set out in the claims as essential elements for the purposes of our analysis for the same reasons set out above.

## **CLAIMS 4, 21, 22, 26 AND 27 AND PAGES 8A AND 8B DO NOT CONTAIN NEW MATTER**

### **Legal principles**

- [23] Subsections 38.2(2) and (3.1) prohibit amendments adding matter to the specification and drawings contained in a divisional application that cannot be reasonably inferred from the parent application on its filing date or from the divisional application on the date on that it was received by the Commissioner:

38.2(2) 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.

...

38.2(3.1) The specification and drawings contained in a divisional application may not be amended to add matter

- (a) that may not be or could not have been added, under subsection (2) or (3) or this subsection, to the specification and drawings contained in the application for a patent from which the divisional application results; or
- (b) that cannot reasonably be inferred from the specification or drawings contained in the divisional application on the date

on which the Commissioner, in respect of that application, receives the prescribed documents and information or, if they are received on different dates, on the latest of those dates.

- [24] Therefore, assessing whether there is new matter requires a comparison of the pending specification and drawings with both the original parent application and the original version of the divisional application on the date that it was received.
- [25] 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 person skilled in the art: see *Re Uni-Charm Corp's Patent Application 2313707* (2013), CD 1353 (Pat App Bd & Pat Commr) at para 13.

## Analysis

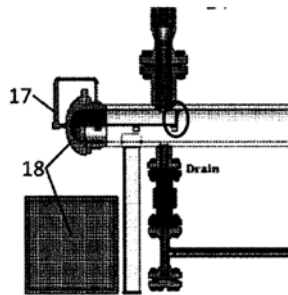
- [26] With the above principles in mind, we said the following on pages 10–13 in our letter:

The “hydrate-knock-out baffle” is defined as having a first portion comprising a perforated plate in claims 4, 21 and 22, and claims 26, 27 and pages 8a–8b of the description add that the second portion is solid or is a wall. On page 5, the Final Action identifies this definition as new matter that is not reasonably inferred from the specification or drawings as originally filed. The Final Action further indicates that the original description makes no distinction between the physical configuration of the vertical and horizontal portions of the baffle that are shown as element 16 in Figures 1–4 of the drawings.

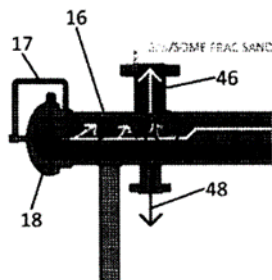
In the response to the Final Action, the Applicant refers to pages 7 and 23 in the original description and Figures 3 and 5 in the original drawings as evidence supporting that the baffle was originally disclosed as having one portion that is perforated and another portion that is not (pages 4–6):

The Applicant also refers to Figures 3 and 5, which are provided below in higher quality, and to page 23 of the specification as

originally filed, which provides support for the baffle 16 in the original disclosure. In particular, on page 23, the specification introduces a “hydrate-knock-out baffle at 16”. A portion of each of Figures 3 and 5 illustrates the wall positioned at an end of the perforated plate...As can be seen, the baffle 16 has a vertical wall portion that blocks fluid flow and a horizontal plate portion that allows fluid to flow therethrough.



Enlarged portion of Figure 3 provided in higher quality



Enlarged portion of Figure 5 provided in higher quality

Both the wall and the plate are part of the baffle 16, as recited in the claims. As can be seen in Figure 5, fluid flows through the horizontal plate, but is blocked by the vertical wall. Were this vertical wall perforated, it would not direct fluid in this manner, but would let fluid flow through in the same manner as the horizontal, perforated plate.

Importantly, section 38.2 of the *Patent Act* has changed from the version that was in force at the time that the Final Action was written. The former version required a comparison of the pending specification and drawings to those that were filed originally without distinguishing between [the] original

parent application and the original version of the divisional application. For this reason we have performed a fresh assessment of the issue.

On May 11, 2016 the Commissioner received the divisional application and an accompanying letter from the Applicant. With that letter the Applicant provided a copy of the description and drawings from the original parent application, the issued claims from the parent application, a new set of divisional claims 1–20 and new replacement pages for all of the drawings and nine pages of the description. In that letter, the Applicant indicates that the replacement drawings and description pages correspond to pages that were amended and ultimately allowed in the parent application.

It is important to note that the replacement drawing pages that were received as part of the original divisional application have better quality resolution than those filed with the original parent application. Figures 3 and 5 above are illustrative of the better quality versions that were received with the divisional application and are presently on file.

We agree with the Applicant that it would have been clear to the skilled person from Figures 3, 5 and the description that the baffle 16 comprises a vertical wall portion that blocks fluid flow and directs it down and up through the horizontal plate portion. That matter and the horizontal perforated plate are clearly depicted in the higher quality Figures 1, 3 and 5 that were received originally with the divisional application and so our preliminary view is that this matter complies with paragraph 38.2(3.1)(b) of the *Patent Act*.

Whether it constitutes new matter over the originally filed parent application is a separate question.

Paragraph 38.2(3.1)(a) of the *Patent Act* prohibits adding new matter to the specification or drawings of a divisional application that “may not be or could not have been” added in the parent application because it cannot reasonably be inferred from the specification or drawings in the original parent application.

As mentioned above, the quality and resolution of the drawings in the originally filed parent application is poor and noticeably inferior to the quality of the replacement drawings received with the divisional application. However, in our preliminary view, the drawings are sufficiently clear to discern the vertical wall and horizontal plate portions of the baffle in Figure 3 and to follow the arrows indicating that the fluid is forced down by the vertical wall and flows up through the horizontal plate in Figure 5. In our preliminary view, this is not new matter in Figures 3 and 5 because it was present in the original drawings, albeit with poorer resolution. In our preliminary view, the skilled person would reasonably infer from these features that the knock-out baffle has a first portion that allows fluid to flow through it (e.g., is perforated in some manner) and a second portion that does not. Our preliminary view is therefore that this does not constitute new matter under paragraph 38.2(3.1)(a) of the *Patent Act*.

- [27] The Applicant did not contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that the hydrate-knock-out baffle having a first portion comprising a perforated plate and a second solid or wall portion does not constitute new matter. We therefore conclude that claims 4, 21, 22, 26 and 27 on file and pages 8a and 8b in the description comply with subsection 38.2(3.1) of the *Patent Act*.

## **THE DISCLOSURE IS SUFFICIENT**

### **Legal principles**

- [28] Subsection 27(3) of the *Patent Act* requires, among other things, a specification of a patent to correctly and fully describe an invention, and to enable its practice:

27(3) The specification of an invention must:

- (a) correctly and fully describe the invention and its operation or use as contemplated by the inventor;

- (b) set out clearly the various steps in a process, or the method of constructing, making, compounding or using a machine, manufacture or composition of matter, in such full, clear, concise and exact terms as to enable any person skilled in the art or science to which it pertains, or with which it is most closely connected, to make, construct, compound or use it;

...

- [29] A determination of whether the specification complies with paragraphs 27(3)(a) and 27(3)(b) of the *Patent Act* requires that three questions be answered: What is the invention? How does it work? Having only the specification, can the person of skill in the art produce the invention using only the instructions contained in the disclosure? see: *Teva Canada Ltd v Novartis AG*, 2013 FC 141 citing *Teva Canada Ltd v Pfizer Canada Inc*, 2012 SCC 60 and *Consolboard v MacMillan Bloedel (Sask) Ltd*, [1981] 1 SCR 504 at 520.
- [30] With respect to this third question, “it is necessary that no additional inventive ingenuity be required in order to make the patent work” (*Aventis Pharma Inc v Apotex Inc*, 2005 FC 1283 at para 172). A patent will not be invalid for insufficient disclosure where routine experimentation is required of the skilled person, but the Supreme Court of Canada has held that a disclosure is insufficient if the specification “necessitates the working out of a problem” (*Idenix Pharmaceuticals, Inc v Gilead Pharmasset LLC*, 2017 FCA 161 at para 19, citing *Pioneer Hi-Bred v Canada* [1989] 1 SCR 1623 at 1641).

## Analysis

- [31] With the above principles in mind, we said the following on pages 14–15:

On page 5, the Final Action contends that if the claimed hydrate-knock-out baffle represented by 16 in Figures 1–4 lies at the heart of the invention then the description does not comply with subsection 27(3) of the *Patent Act*. Specifically, the description fails to correctly and fully describe its physical

construction and function in the pressure vessel other than being a perforated plate that screens out solids.

On pages 4–6 in the response to the Final Action, the Applicant relies on the same reasoning set out above in the last section for new matter, in reference to Figures 3 and 5. On page 6, the Applicant submits that the baffle comprising a perforated portion and a second impermeable portion finds support in the original disclosure and so the rejection pursuant to subsection 27(3) of the *Patent Act* ought to be withdrawn.

Pages 20–22 of the Applicant's description describe one embodiment of the invention referred to as the dual H-V sand filter, "H" signifying the horizontal pressure vessel and "V" the vertical tubular screen chamber. The H-V sand filter is depicted in Figures 1–5. As discussed above, the horizontal and vertical portions of the baffle are clearly visible in Figure 3. At the top of page 22 in the section entitled "Secondary Section (Stage 2)" the description explains that gas and minimal amounts of sand/fluid flows through a perforated plate which helps to prevent any particulates large enough to damage the screen from entering the coalescing section in stage 3. Figure 4 clearly labels the secondary section as including the baffle which is disposed within the pressure vessel just before the outlet. In our preliminary view, it would be clear to the skilled reader from the description of the secondary section for the H-V sand filter that the horizontal portion contains the perforated plate. Further, as discussed in the preceding section, it would have been clear to the skilled person from Figure 5 that the fluid is redirected downward beneath the solid vertical portion and then up through the perforated portion as it enters the secondary section.

In our preliminary view, this is sufficient information for the skilled person to understand what the invention is, how it works and would enable them to produce it using only the instructions contained in the disclosure, supplemented by the CGK. We are therefore satisfied that the description, insofar as it relates to claims 4, 21, 22, 26 and 27 on file, complies with subsection 27(3) of the *Patent Act*.

- [32] The Applicant did not contest or comment on our analysis in response to our letter. Our view is that the description, insofar as it relates to claims 4, 21, 22, 26 and 27 on file, complies with subsection 27(3) of the *Patent Act* for the same reasons set out above.

## **CLAIMS 6 AND 7 ARE ANTICIPATED**

### **Legal principles**

- [33] Subsection 28.2(1) of the *Patent Act* requires claimed subject-matter to be new:

The subject-matter defined by a claim in an application for a patent in Canada (the “pending application”) must not have been disclosed

- (a) 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 subject-matter became available to the public in Canada or elsewhere;
- (b) before the claim date by a person not mentioned in paragraph (a) in such a manner that the subject-matter became available to the public in Canada or elsewhere;

...

- [34] There are two separate requirements to show that prior art anticipates a claimed invention: there must be a prior disclosure of the claimed subject-matter and the prior disclosure must enable the claimed subject-matter to be practised by a skilled person (*Apotex Inc v Sanofi–Synthelabo Canada Inc*, 2008 SCC 61 [*Sanofi*] at paras 24–29, 49).
- [35] “Prior disclosure” means that the prior art must disclose subject-matter which, if performed, would necessarily result in infringement of the patent. The skilled person looking at the disclosure is “taken to be trying to understand what the

author of the description [in the prior patent] meant” (*Sanofi* at para 32). At this stage, there is no room for trial and error or experimentation by the skilled person. The prior art is simply read “for the purposes of understanding it” (*Sanofi* at para 25, citing *Synthon BV v SmithKline Beecham plc*, [2005] UKHL 59).

- [36] “Enablement” means that the person skilled in the art would have been able to perform the invention without undue burden. The person skilled in the art is assumed to be willing to make trial and error experiments to get it to work (*Sanofi* at paras 26–27).

## Analysis

- [37] With the above principles in mind, we said the following on pages 15–17:

...during the course of our review the question arose as to whether document D1 cited in the Final Action for obviousness is also relevant to the issue of anticipation:

D1: US 2013/013410      Tweit et al.      May 30, 2013 (2013-05-30)

...

### *Prior disclosure*

The Final Action describes D1 as disclosing an apparatus comprising a pressure vessel (10) having a chamber with an inlet (15), an outlet (16) and a generally perpendicular baffle (40) proximate to the outlet to filter out solids from the treated fluid. Particular attention is drawn to Figure 1 and paragraphs 42 and 53–55. The following excerpt from paragraph 55 is highlighted:

In addition, the outlet baffle may have slots, vertical weir openings, may be screened, or may be provided in any alternate configuration that partially or fully redirects, or partially obstructs flow to the outlet.

The settling vessel is described as a desander and includes the embodiment where the fluid stream originates from a wellhead and may comprise gas, oil (liquid hydrocarbons), water and sand (paras 16, 39). Importantly, D1 further disclosed that the outlet may also contain a screen or baffle to promote settling of any sand that reaches the outlet (para 42).

Independent claim 6 defines a method for separating solids from a fluid, and dependent claim 7 specifies that the fluid of claim 6 includes oil, water, gas and other well fluids. Claim 6 uses sufficiently broad language to encompass an embodiment where the baffle in step (b) is a solid metal impingement plate that knocks out a portion of solids and the filtering at step (c) is carried out downstream such as in the outlet in D1. Consequently, our preliminary view is that the skilled person would consider D1 as disclosing all of the essential elements of claims 6 and 7.

#### *Enablement*

As we have already set out above, the general use of horizontal gravity separators in the oil and gas field to settle solid and liquid droplets was CGK, as was the use of baffles and screens to remove finer particles from a gas stream. Our preliminary view is that it would have been well within the purview of the skilled person to fabricate the specific configurations and determine placement of the elements described in D1 and carry out the separation without undue burden.

For these reasons, our preliminary view is that the subject-matter of claims 6 and 7 is disclosed and enabled in D1, contrary to [paragraph 28.2(1)(b)] of the *Patent Act*.

- [38] The Applicant did not contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that the subject-matter of claims 6 and 7 is disclosed and enabled in D1 and so these claims do not comply with paragraph 28.2(1)(b) of the *Patent Act*.

## CLAIMS 1–27 ARE OBVIOUS

### Legal principles

[39] 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.

[40] In *Sanofi* 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?

## Analysis

[41] With the above principles in mind, we said the following on pages 17–25:

The Final Action contends that claims 1–27 are directed to subject-matter that would have been obvious to the skilled person reading D1 (described above) in view of their CGK.

In their response to the Final Action, the Applicant did not provide any arguments with respect to inventiveness and claims on file. Instead, the Applicant proposed amendments to all of the independent claims that would more precisely define the baffle and its impact on fluid flow...

*(1) Identify the notional person skilled in the art and the relevant common general knowledge*

Our preliminary characterizations of the skilled person and relevant CGK apply equally at the claim date and are thus applicable for the purpose of assessing obviousness.

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

On page 6, the Final Action identified the inventive concept of the claims as follows:

The inventive concept of these claims is a pressure vessel for separating solids from a fluid wherein it contains a hydrate-knock-out baffle, also described as a perforated plate, proximate to the vessel's outlet. Certain claims define specific configurations of the

hydrate-knock-out baffle. Other claims add an additional filter subsequent to the pressure vessel.

The Applicant's response to the Final Action did not comment on, contest or dispute this characterization of the inventive concept for the claims on file.

As stated above under purposive construction, the claims on file include six different independent claims that are directed to a filtering apparatus for separating solids from a hydrocarbon fluid (i.e., claims 1, 19–22, 25 and 27) and one independent claim that is directed to a method for separating solids from a fluid (i.e., claim 6). The features identified above in the Final Action are common to all of the claims but each independent and dependent claim contains further features that are also appropriately considered as part of their individual inventive concepts.

Our preliminary analysis therefore uses the claim as construed as the inventive concept for each of the respective claims.

*(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*

As indicated above, a second document relevant to this issue was discovered during the course of our review:

Martin: CA 2041479                      Martin, R.L.                      April 21, 1998 (1998-04-21)

Martin discloses an apparatus for separating solids from well fluids using an elongated horizontal gravity settling vessel with an inlet and outlet disposed at opposing ends. See especially Figure 1 and the teachings on pages 1–3. The vessel is designed for removing solids including artificially introduced sand proppants from hydraulic fracturing from well fluids comprising gas and hydrocarbon liquids. Martin further discloses that the gravity settling vessel contains a mist pad (46) adjacent to the outlet and parallel to the length of the vessel that is held in place by a holder (47) that is generally

perpendicular to the mist pad. There is no indication that the holder is solid or imperforated.

On pages 6–7, the Final Action identified the following differences (as summarized) between the inventive concepts of the independent claims and D1:

- a first portion of the baffle is parallel to the longitudinal length of the pressure vessel and a second portion of the baffle is perpendicular to the longitudinal length (claims 1, 19, 20);
- filtering remaining solids (i.e., downstream of striking the baffle) (claim 6);
- the first surface of the baffle is perforated and the second surface is disposed at one end of the first surface (claim 21);
- the first perforated surface of the baffle is parallel to the longitudinal axis of the pressure vessel (claim 22);
- the baffle, defined only as a perforated plate, is substantially parallel to the vessel's longitudinal axis (claim 25); and
- the baffle comprises a first perforated portion disposed parallel to the longitudinal length of the vessel and a second perpendicular portion that is imperforated (claim 27).

With respect to claim 6, as explained above under anticipation we do not agree that filtering the fluid after it strikes the baffle is a difference since D1 discloses adding a screen or second baffle inside the outlet. Likewise, there is no difference between D1 and the inventive concept of claim 7 since D1 discloses using the apparatus to settle solids from well fluids comprising oil, water and gas.

We agree with the Final Action that the remaining points above are differences over D1. Further, all of the differences (including claim 6) are also differences over Martin. We further identify the following differences:

- the inlet and chamber are sized to settle a portion of the fluids (claim 2);
- the horizontal or vertical tubular screen chamber comprising a screen that filters further solids from the fluid leaving the pressure vessel and that is elevated relative to that vessel and connected to its outlet (claims 3, 5 and 23);
- the screen chamber comprises a removable cartridge with a hollow slotted screen cylinder wrapped with stainless steel “V”-shaped wire that comprises a plurality of ribs, cross member or bevelled edge and wherein the open surface area of the cylinder’s exterior is greater than that of the screen (claims 8–18 and 24);
- the fluid and solids do not flow through the second imperforate surface but the fluid and a portion of the solids flow through the first perforated surface (claims 26 and 27)

Notably, dependent claim 4 is not included above because its embodiments are the same as independent claims 21 and 22 and are therefore not further differences.

Subject to any comments or clarifications the Applicant wishes to make in view of the above, our analysis will proceed with the above understanding of the differences.

*(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*

#### THE APPARATUS CLAIMS

With regard to independent claims 1, 19–22, 25 and 27 and D1, the main difference is that the baffle adjacent to the outlet in D1, which may have slots or screens, only has one side: it does not comprise a second portion that is perpendicular to the first.

However, as set out above under CGK, using a mist extractor near the outlet of horizontal separators like the one in D1 was well known. For example, Figure 4-2 from the Arnold & Stewart handbook shows such a configuration having a mist extractor parallel to the vessel axis that is held in place by a perpendicular support structure:

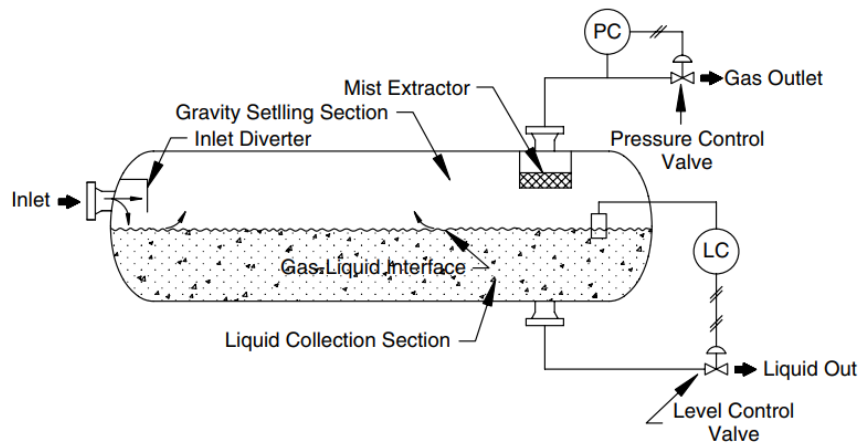


Figure 4-2. Horizontal separator schematic.

As part of the CGK taken from the Arnold & Stewart handbook, mist extractors such as illustrated in Figure 4-2 above, may be baffles, mist pads or wire-mesh cartridge filters and selecting an appropriate mist extractor would consider factors such as the nature of the fluid and cost, wire-mesh pads being the cheapest but most susceptible to plugging with gas hydrates (Arnold & Stewart page 187).

Further, it was part of the CGK to use baffles in horizontal separators in the oil and gas field, to use such a baffle near the outlet, and to use metal perforated plates for separating solids and screening gas or liquid flows ahead of some finer processing stage.

As is evident from Figure 4-2 of the Arnold & Stewart handbook, it was well known to force moving gas with entrained solids around a support structure perpendicular to the longitudinal axis of a horizontal separator, and for the gas to then flow through a mist extractor (e.g., a baffle in the form of a perforated plate) oriented parallel to the longitudinal axis of the separator.

We further note that in D1 at paragraph [0055], though the baffle near the outlet has been generally described as oriented at an angle to the gas flow, the outlet baffle “may be provided in any alternate configuration that partially or fully redirects, or partially obstructs flow to the outlet”, leaving the option of how to redirect the flow so as to disrupt it and effect settling of solids to the skilled person.

In light of the above, it is our preliminary view that it would have been obvious to the skilled person, having knowledge of D1 and possessing the relevant CGK, to make modifications to the structure of the D1 baffle as needed depending on the characteristics of the fluid and overall separation system configuration. Using a baffle in the form of a perforated plate as a mist extractor near the outlet of a horizontal separator and supporting such a structure so that fluid must flow around the support structure and up through the mist extractor were options that were part of the skilled person’s CGK. The Applicant has not described any particular advantages in using their claimed configuration beyond those that would have been expected based on the CGK and our preliminary view is that the skilled person would not consider it as being associated with any degree of inventive ingenuity.

Likewise, Martin shows a similar configuration but using a different type of mist extractor, a mist pad (46), that is held in place by a holder (47) that is perpendicular to the mist pad. Our preliminary view is that it would not

require any degree of ingenuity for the skilled person reading Martin to substitute the mist pad for a different mist extractor such as a baffle in light of the skilled person's CGK. As stated above, selecting an appropriate mist extractor would consider factors such as the nature of the fluid and cost (Arnold & Stewart page 187).

As stated above, it was CGK to use baffles in horizontal separators in the oil and gas field, to use such a baffle near the outlet, and to use metal perforated plates for separating solids for screening of gas or liquid flows ahead of some finer processing stage.

For all of these reasons, our preliminary view is that independent claims 1, 19–22, 25 and 27 would have been obvious in view of either one of D1 or Martin read in light of the CGK. Likewise, since the embodiment of dependent claim 4 is set out in claims 21 and 22, our preliminary view is that claim 4 would also have been obvious for the same reasons.

With respect to further differences in respect of the dependent claims 2, 3, 5, 8–18, 23 and 24, we note that the response to the Final Action did not assert that there was any degree of inventive ingenuity associated with the additional limitations in these claims. Rather, the Applicant proposed amending the claims on file to add similar limitations to those set out in independent claim 27.

We have already identified above under CGK that it was well known to the skilled person that pressure vessels are sized to settle solids in view of the particular application and the knowledge required to do so was CGK (as in claim 2). It was also well known that conventional gravitation separators alone are ineffective in oil and gas applications and so mist extractors such as cartridge filters comprising wire-wrapped slotted screens are used to filter small liquid and solid particles from the gas downstream of the pressure vessel (as in claims 3, 5, 8, 23 and 24). Further, filter cartridge media made using stainless steel "V"-shaped wedge wire, ribs and cross members for

additional structural support and with bevelled or tapered edges were all also well known (as in claims 9–18).

To the extent that any degree of inventive ingenuity may be attributed to the combination of a horizontal pressure vessel with a tubular screen chamber that is elevated relative to the pressure vessel as set out in claim 3, we note that the Applicant has already received a patent for this subject-matter in the parent patent 2,877,020 from which this divisional application results. An inventor is only entitled to “a” patent for each invention: *Whirlpool* at para 63, citing section 36(1) of the *Patent Act*.

For all of the reasons set out above, our preliminary view is that the inventive ingenuity needed to support a patent is not found in dependent claims 2–5, 8–18, 23 or 24.

#### THE METHOD CLAIMS

As explained above, claims 6 and 7 broadly encompass an embodiment that was disclosed and enabled in D1 and as such there are no differences between the inventive concepts of these claims and D1. Our preliminary view is that it would not require any inventive ingenuity on the part of the skilled person to arrive at the subject-matter of claims 6 or 7.

In the same manner as claim 27, dependent claim 26 further defines the baffle as having a first perforated surface and a second surface and that fluid and a portion of solids flow through the perforated surface but not the second surface.

As we have already explained above, D1 teaches that the outlet baffle “may be provided in any alternate configuration that partially or fully redirects, or partially obstructs flow to the outlet”. Further, forcing gas to move around a support structure before passing through a mist extractor was well known and that embodiment is shown in Figure 4-2 above and Martin, albeit for a different type of mist extractor. For the same reasons that we have already set out above for the apparatus claims, including claim 27, our preliminary

view is that the embodiment set out in claim 26 would have been obvious to the skilled person in view of either D1 or Martin in view of the CGK.

For all of these reasons, our preliminary view is that claims 6, 7 and 26 do not comply with section 28.3 of the *Patent Act*.

- [42] The Applicant did not dispute, contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that the subject-matter of claims 1–27 would have been obvious to the skilled person in view of either one of D1 or Martin in light of the CGK. Our conclusion is therefore that these claims do not comply with section 28.3 of the *Patent Act*.

## **CLAIMS 6 AND 27 ARE INDEFINITE BUT CLAIMS 19–22 AND 25 ARE CLEAR AND DEFINITE**

### **Legal principles**

- [43] Subsection 27(4) of the *Patent Act* requires claims to 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.

- [44] In *Minerals Separation North American Corp v Noranda Mines Ltd*, [1947] Ex CR 306 at 352, 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.

## Analysis

[45] With the above principles in mind, we said the following on pages 26–27:

On page 8, the Final Action contends that claims 6, 19–22, 25 and 27 contain a number of minor clarity defects rendering them indefinite and therefore non-compliant with subsection 27(4) of the *Patent Act*. In the response to the Final Action, the Applicant opted to propose amendments addressing the defects without commenting on the alleged defects or arguing for the patentability of the claims.

For claim 6, the Final Action indicates that “said outlet” in part (b) and “said remaining solids” in part (c) have no antecedent. In our preliminary view, we agree that the outlet was not introduced and is therefore missing an antecedent. However, our preliminary view is that it would be implicit to the skilled person that it is the remaining solids that are filtered in step (c) (i.e., the solids remaining in the fluid following step (b)) and so we do not agree that an antecedent is missing. Accordingly, our preliminary view is that the reference to “said outlet” without first defining that an outlet is present renders the claim indefinite.

For claims 19–22, 25 and 27, the Final Action states that the features of the apparatus are enumerated using letters of the alphabet that do not begin with the letter “a” and that this renders the claims indefinite. We are unable to agree that the skilled person reading the specification as a whole, including all of these independent claims that are not linked with other claims, would be confused about the scope or find these claims indefinite. Our preliminary view is that the skilled person reading these claims in the context of one another would understand that different letters are used to denote that the embodiments are not identical.

The Final Action further contends that claims 20, 22 and 25 are also indefinite because the expression “said axis” is used instead of “said longitudinal axis”. The Final Action does not provide a further explanation. In our preliminary view, since only one axis is referred to in these claims we are unable to agree that skilled person would be confused by this expression or consider these claims indefinite.

Finally, the Final Action further contends that claim 27 is indefinite because it does not end with a period. This is a relatively minor and easily rectified defect, however without a period the end of the claim is not clear, as it suggests that content may have been inadvertently omitted. Our preliminary view is that the claim must end in a period to be clear and definite from the perspective of the skilled person and to comply with subsection 27(4) of the *Patent Act*.

- [46] The Applicant did not contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that claims 6 and 27 are indefinite but that claims 19–22 and 25 are clear and definite. Our conclusion is therefore that claims 6 and 27 are the only claims that do not comply with subsection 27(4) of the *Patent Act*.

## **PAGE 38 DOES NOT HAVE A PROPER FORMAT**

### **Legal principles**

- [47] Paragraph 13(1)(c) of the *Patent Rules* (formerly subsection 68(1)) requires that, among other things, the pages of a patent application are free of interlineations:

Subject to subsection (2), documents submitted in paper form in connection with a patent and an application for a patent must:

...

(c) be free of interlineations, cancellations or corrections.

## Analysis

[48] With the above rule in mind, we said the following on pages 27–28:

On page 8, the Final Action states that page 38 of the application does not comply with subsection 68(1) (now 13(1)(c)) the *Patent Rules* because the word “or” is underlined in the passage “(a) horizontally orientated tubular screen chamber, or...” in claim 3.

The Applicant did not dispute this in the response to the Final Action and proposed removing the underlining in the corresponding proposed claim.

Our preliminary view is that this underlining constitutes an interlineation and so page 38 does not comply with paragraph 13(1)(c) of the *Patent Rules*.

[49] The Applicant did not contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that page 38 containing claim 3 does not have the proper format required in paragraph 13(1)(c) of the *Patent Rules*.

## PROPOSED CLAIMS

[50] As mentioned above, the Applicant submitted a new set of proposed claims 1–19 with the response to the Final Action. The Applicant further proposed replacing pages 8b and 8c in the description with new pages 8b–8e to reflect the wording of those proposed claims.

[51] The proposed claim amendments would delete claims 4 and 21–27 on file outright leaving independent claims 1, 5, 18 and 19 (corresponding to independent claims 1, 6, 19 and 20 on file, respectively). All of those independent proposed claims define the baffle as having a perforated portion and a solid portion that forces fluid downward and then upward through the perforated portion of the baffle in a similar manner to claims 26 and 27 on file. The following language from proposed claim 1 is illustrative:

wherein the hydrate-knock-out baffle comprises an axially-extending, perforated plate configured to allow fluid to flow therethrough, and a wall extending transverse to the perforated plate and connected to the pressure vessel, wherein the wall is configured to block fluid flow, such that the fluid is forced to flow vertically under the wall and then upward through the perforated plate.

- [52] In addition, the proposed claims would delete the interlineation from claim 3, change the expression “said tubular screen chamber” to “said chamber” in proposed claims 4 and 7 (corresponding to claims 5 and 8 on file) and introduce the outlet in part (b) of proposed claim 5 (corresponding to claim 6 on file).
- [53] On pages 28–30 in our letter, we expressed our preliminary view that the proposed amendments would not address all of the outstanding defects for the claims on file and that the amendments would also introduce new defects:

With regard to anticipation, D1 does not disclose a baffle having two portions that direct fluid to flow downward and then upwards through a perforated portion in the manner defined in the proposed claims.

Since the disclosure requirement of the anticipation test is not satisfied there is no need to consider enablement. Our preliminary view is that the proposed claims would be novel and compliant with [paragraph 28.2(1)(b)] of the *Patent Act*.

With regard to obviousness, the proposed claims essentially add the subject-matter of claims 26 and 27 on file to all of the independent claims. For the same reasons already provided above for the corresponding claims on file, including claims 26 and 27, our preliminary view is that the subject-matter of the proposed claims would have been obvious to the skilled person. Our preliminary view is therefore that the proposed claims would not comply with section 28.3 of the *Patent Act*.

With respect to indefiniteness and ambiguity, since proposed claim 5 would introduce the outlet in part (b) and claim 27 would be deleted outright, our

preliminary view is that these amendments would address the concerns raised in the Final Action. Likewise, our preliminary view is that deleting the interlineation in part (a) of proposed claim 3 would address that issue as well.

With regard to the deletion of “tubular screen” in proposed claims 4 and 7, the Summary of Reasons indicates that this deletion would constitute new matter and indicated that this issue had been addressed previously during prosecution for similar claims in the letter of June 15, 2018. That letter states that it is not reasonably inferred from the specification or drawings as originally filed that the baffle and the vertical or horizontal screen may be found in the same chamber (i.e., within the pressure vessel). In the response dated September 18, 2018, the Applicant did not contest or dispute that this was new matter, opting instead to amend the claim to make it clear that it is the tubular screen chamber, and not the pressure vessel, that comprises a screen.

Having considered the specification and drawings of the originally filed parent application, we are unable to find any basis supporting that the skilled person would reasonably infer that the vertical or horizontal screen is placed inside the pressure vessel along with the hydrate-knock-out baffle. For this reason, our preliminary view is that this would constitute new matter that is prohibited under paragraph 38.2(3.1)(a) of the *Patent Act*.

Also, part (c) of proposed claim 13 refers to “a” screen (instead of the screen) which is problematic, in our preliminary view, because claim 7 (which claim 13 would depend on) already defines the wire wrapped slotted screen. Our preliminary view is that this would introduce avoidable ambiguity and confusion as to whether this is referring to the same screen or a further screen. For that reason, our preliminary view is that proposed claim 13 would not comply with subsection 27(4) of the *Patent Act*.

Finally, unlike the other independent claims, proposed claim 18 defines “a vessel” in part (a) instead of “a pressure vessel”. Since the newly proposed

text at the end of the claim refers to connection with the “pressure vessel” our preliminary view is that this proposed amendment would introduce avoidable ambiguity as to whether or not the claimed vessel is a pressure vessel. For that reason, our preliminary view is that proposed claim 18 would not comply with subsection 27(4) of the *Patent Act*.

Since the proposed amendments to the claims and description would not all comply with the *Patent Act* our preliminary view is that they do not qualify as “necessary” amendments under subsection 86(11) of the *Patent Rules*.

- [54] The Applicant did not dispute, contest or comment on our analysis in response to our letter. For the same reasons set out above, our view is that the proposed amendments would not overcome the obviousness defect, and so the proposed claims would not comply with section 28.3 of the *Patent Act*, and the amendments would also introduce new defects contravening paragraph 38.2(3.1)(a) and subsection 27(4) of the *Patent Act*. Our conclusion is therefore that the proposed amendments would not render the application allowable and therefore do not qualify as “necessary” amendments under subsection 86(11) of the *Patent Rules*.

## CONCLUSIONS

- [55] Our conclusions are that claims 6 and 7 on file do not comply with paragraph 28.2(1)(b) of the *Patent Act*; claims 1–27 on file do not comply with section 28.3 of the *Patent Act*; claims 6 and 27 do not comply with subsection 27(4) of the *Patent Act*; and that page 68 containing claim 3 does not comply with paragraph 13(1)(c) of the *Patent Rules*. We have further concluded that the proposed amendments would not address all of the outstanding issues or render the application allowable.

## RECOMMENDATION OF THE BOARD

- [56] In view of the above, we recommend that the application be refused on the grounds that:

- claims 6 and 7 on file do not comply with paragraph 28.2(1)(b) of the *Patent Act*;
- claims 1–27 on file do not comply with section 28.3 of the *Patent Act*;
- claims 6 and 27 do not comply with subsection 27(4) of the *Patent Act*; and
- page 68 containing claim 3 does not comply with paragraph 13(1)(c) of the *Patent Rules*.

Cara Weir

Celine Dumais

Stephen MacNeil

Member

Member

Member

## **DECISION OF THE COMMISSIONER**

[57] I agree with the Board's findings and its recommendation that the application be refused on the grounds that:

- claims 6 and 7 on file do not comply with paragraph 28.2(1)(b) of the *Patent Act*;
- claims 1–27 on file do not comply with section 28.3 of the *Patent Act*;
- claims 6 and 27 do not comply with subsection 27(4) of the *Patent Act*; and
- page 68 containing claim 3 does not comply with paragraph 13(1)(c) of the *Patent Rules*.

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

Konstantinos Georgaras

Commissioner of Patents

Dated at Gatineau, Quebec

this 23<sup>rd</sup> day of February, 2024.