

Inventive Concept:

*The genesis and history in Canadian
patent law*

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Apotex v Sanofi, 2008 SCC 61

- Considered obviousness of claims to clopidogrel bisulfate encompassed within an earlier genus patent
- Federal Court applied the obviousness test from *Beloit*

“.... The question to be asked is *whether this mythical creature (the man in the Clapham omnibus of patent law) would, in the light of the state of the art and of common general knowledge as at the claimed date of invention, have come **directly and without difficulty** to the solution taught by the patent. It is a **very difficult** test to satisfy.*”

Apotex v Sanofi, 2008 SCC 61

“..... the **restrictiveness** with which the *Beloit* test has been interpreted in Canada should be **re-examined**”

- The SCC adopted the framework developed by EWCA in *Windsurfing* and *Pozzoli*, noting:

“This approach should bring **better structure** to the obviousness inquiry and more **objectivity** and **clarity** to the analysis”

Apotex v Sanofi, 2008 SCC 61

- (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?

Apotex v Sanofi, 2008 SCC 61

- “inventive concept” was not defined
- In applying *Windsurfing/Pozzoli* framework to claims in issue:

“The **inventive concept** of the claims is **not readily discernable** from the claims themselves. A bare chemical formula in a patent claim may not be sufficient to **determine its inventiveness**. In such cases, I think it must be acceptable to **read the specification** in the patent to determine the inventive concept of the claims. Of course, it is **not permissible** to read the specification in order to **construe the claims more narrowly or widely** than the text will allow.”

BMS v Teva, 2017 FCA 76

- Claims to Type-I atazanavir bisulfate and formulation
- Earlier patent to atazanavir and its pharmaceutically acceptable salts
- Applying *Sanofi*, reviewing disclosure and expert evidence, FC concluded the inventive concept included:
 1. the improved oral bioavailability over the free base
 2. the anhydrous crystalline solid form; and
 3. the stability
- FC found claims obvious despite non-predictability of 2. and 3.

BMS v Teva, 2017 FCA 76

- Reviewing *Sanofi*, FCA stated “a **categorical approach** to obviousness... is **inappropriate**... a hard and fast rule that obviousness cannot be shown unless all the elements of the inventive concept can be predicted with a high degree of certainty is the **antithesis** of the approach ... favoured in [*Sanofi*]”
- FCA noted *Sanofi* did not refer to *Pozzoli*'s cautionary note :

“In some cases the parties cannot agree on what the concept is. If one is not careful such a disagreement can develop into an unnecessary satellite debate. **In the end what matters is/are the difference(s) between what is claimed and the prior art.** It is those differences which form the "step" to be considered at stage (4). So if a **disagreement** about the inventive concept of a claim starts getting too involved, the **sensible way to proceed is to forget it and simply to work on the features of the claim.**

BMS v Teva, 2017 FCA 76

- Obviousness asks whether the distance between two points can be bridged by the skilled person using common general knowledge
 - First point = prior art
 - “... ‘the inventive concept’, ‘the solution taught by the patent’, ‘what is claimed’ or simply ‘the invention’ are attempts to define the second point.”
 - “...changing the second point will affect the difficulty of bridging that difference, therefore making inventiveness more or less likely.”
- “Is it likely that the Supreme Court, having taken great care in modifying the test for obviousness [in *Sanofi*], would, without saying so, change the definition of obviousness?”

BMS v Teva Canada, 2017 FCA 76

- “As an aside, it seems to me that the use of ‘inventive concept’ begs the question which the *Windsurfing/Pozzoli* framework seeks to answer. The question in an obviousness inquiry is whether there has been inventiveness or not. Requiring the Court to **identify the inventive concept assumes inventiveness**. It is illogical to ask the Court to identify the inventive concept of the claimed invention and then to ask it to determine if the claimed invention is in fact inventive.”

BMS v Teva Canada, 2017 FCA 76

- Applying this reasoning to the facts, the FCA found ‘inventive concept’ was not materially different from ‘the solution taught by the patent’
- Inventive concept in this case was atazanavir bisulfate, a salt of atazanavir which is pharmaceutically acceptable because it has equal or better bioavailability than the atazanavir free base
- No difference between the prior art and the inventive concept or the solution taught by the patent.

Ciba v SNF, 2017 FCA 225

- Patent concerned treatment of tailings from mineral extraction
- FCA found that the FC had erred in conflated steps 2 and 3 of the *Windsurfing/Pozzoli* analysis:
“... instead of comparing the inventive step to the common general knowledge, it compares the invention to the common general knowledge to arrive at the inventive step”

Ciba v SNF, 2017 FCA 225

“The next issue is the identification of the inventive concept. We can find some guidance as to how to approach the inventive concept in *Pozzoli*...:

It is the inventive concept of the claim in question which must be considered, not some generalised concept to be derived from the specification as a whole. Different claims can, and generally will, have different inventive concepts.
...”

“...emphasis on the claims is consistent with section 28.3 of the *Act* which stipulates that it is ‘the subject-matter defined by a claim’ which must not be obvious”

Ciba v SNF, 2017 FCA 225

“There may be cases in which the inventive concept can be grasped without difficulty but it appears to me that because **“inventive concept” remains undefined**, the search for it has brought **considerable confusion** into the law of obviousness. That uncertainty can be reduced by **simply avoiding the inventive concept altogether** and pursuing the alternate course of construing the claim. Until such time as the Supreme Court is able to develop a workable definition of the inventive concept, that appears to me to be a more useful use of the parties’ and the Federal Court’s time than arguing about a distraction or engaging in an **unnecessary satellite debate.**”

Ciba v SNF, 2017 FCA 225

- “A Skilled Person, using their common general knowledge, would be able to bridge the **difference** between the **claim as construed** and the **cited prior art** the invention claimed in the ‘581 patent is obvious.”
- Leave to appeal dismissed (SCC #37915)

Apotex v Shire, 2021 FCA 65

- Claims, including to bare chemical formula lisdexamfetamine (LDX) found unobvious
- FC found “the inventive concept of the 646 Patent is a **sustained release formulation** of a therapeutically useful dose of amphetamine that is **resistant to abuse**”
- Dependent claims reciting sustained release profile and abuse resistance not asserted
- Apotex argued FC erred finding single inventive concept and departing from the claim-by-claim approach mandated by section 28.3 of the *Patent Act*

Apotex v Shire, 2021 FCA 65

- “Section 28.3 of the *Patent Act* does not displace the common law test for obviousness.”
- “...though the process for the identification of an inventive concept bears a striking resemblance to that of claims construction, as seen in longstanding Supreme Court of Canada rulings [citing *Free World* and *Whirlpool*] it is nonetheless a **distinct, separate exercise.**”
- “as required by section 28.3 as well as the wording of *Sanofi*, it is the **inventive concept(s) of the claim(s)** in issue that must be the focus of an obviousness inquiry, **not the inventive concept of the patent**”

Apotex v Shire, 2021 FCA 65

- “...a **single inventive concept** must flow through a patent, but each claim’s specific inventive concept may be different”
- Inventive concept can be “based on an analysis of the claims as informed by the specification” and some “elements of the inventive concept are rooted in the specification”
- It was not an error for the FC to construe the inventive concept as including abuse resistance and sustained release formulation, as, *inter alia*, both aspects are described as a property of the compound in the patent
- Dependent claims did not conflict with inventive concept, despite redundancy
- “the narrow claim is not importing a limitation onto the more general claim, but merely highlighting one inherent aspect of it”
- Leave to appeal dismissed (SCC #39662)

Thank you

- Inventive concept in recent case law?

Inventive concept as the end point embraced in recent case law?

- 1) *Pharmascience Inc v Bristol-Myers Squibb Canada Co*, 2022 FCA 142, appeal to SCC filed no. 40400 (leave under review)
- 2) *Rovi Guides, Inc v BCE Inc*, 2022 FC 874, appeal to FCA filed A-186-22
- 3) *Janssen Inc v Sandoz Canada Inc*, 2022 FC 715, appeal to FCA filed A-128-22
- 4) *Merck Sharp & Dohme Corp v Pharmascience Inc*, 2022 FC 417, appeal to FCA filed A-91-22
- 5) *Angelcare Canada Inc v Munchkin, Inc*, 2022 FC 507, appeal to FCA filed A-105-22, A-106-22

Bristol-Myers Squibb Canada Co v Pharmascience Inc, 2021 FC 1

- Trial decision appealed in 2022 FCA 142
- Relevant patent claims at issue
 - 202 Patent (para 27)
 - compound for apixaban (para 27)
 - 171 Patent (para 111)
 - 2.5 or 5 mg apixaban made from Form N-1 crystalline apixaban
 - Prepared by dry granulation
 - Having a D90 equal to or less than about 89 microns as measured by laser light scattering
 - Dissolving at a rate of at least 77% within 30 minutes as determined by a USP Apparatus 2 at a paddle rotation speed of 75 rpm in 900 ml of a dissolution medium of 0.05 M sodium phosphate at a pH 6.8 containing 0.05% SLS at 37C

BMS v Pharmascience – inventive concept considered

- Dispute on whether inventive concept should be considered for the 171 patent claims? (para 124)

Identify the Inventive Concept of the Claim

[130] The inventive concept of the 171 Patent is its teaching that if the apixaban tablet has a D90 equal to or less than about 89 μm and at least 77 wt% of apixaban dissolves within 30 minutes, then the tablets will provide consistent solution-like exposures.

What are the Differences between the State of the Art and the Inventive Concept?

.....

[138] Contrary to the common general knowledge, the inventors of the 171 Patent discovered that formulations made with large particles of apixaban resulted in less than optimal exposure. BMS says that it discovered the unobvious problem; namely, that a large particle size of apixaban can adversely affect in vivo exposure. As BMS notes, there may be an inventive step in recognizing that a problem exists at all. (citations omitted)

Pharmascience Inc v Bristol-Myers Squibb Canada Co, 2022 FCA 142, appeal to SCC filed no. 40400 (leave under review)

[57] PMS also argues, in the alternative, that the Federal Court erred in defining the inventive concept of the 171 Patent. Specifically, PMS argues that

The inventive concept should be defined by the text of the claims (*Hospira* at para. 94), but the reference to solution-like behaviour in the statement of the inventive concept at paragraph 130 of the Federal Court's reasons is unsupported by the claims in issue; and

A single overarching inventive concept should link all of the claims of a patent (*Sildenafil* at para. 64, *Apotex Inc. v. Shire LLC, 2021 FCA 52* (Shire) at paras. 77 and 86) but claim 2 of the 171 Patent (which is not in issue) does not include any limitation to dissolution rate.

[58] I find no merit in either argument. With regard to the first, I reject the submission that the Federal Court improperly imported solution-like behaviour to the inventive concept. Paragraph 130 of the Federal Court's reasons concluded that the inventive concept of the 171 Patent is its teaching that, if the particle size is no greater than as defined therein, and the dissolution rate is at least as high as defined therein, "then the tablets will provide consistent solution-like exposures." I read the reference to "solution-like exposures" as a statement of the reason that the inventive concept is useful, not a separate element thereof. At paragraph 127 of its reasons, the Federal Court noted BMS's submission that, "[i]f you make those tablets in the way that the 171 Patent instructs, you are guaranteed to obtain tablets that provide consistent solution-like exposures." Nothing in the Federal Court's analysis suggests that it read in solution-like behaviour (or solution-like exposures) as a separate element of the inventive concept.

[59] Turning now to the second alternative argument on inventive concept, the authorities cited by PMS are clear that different claims may have different inventive concepts: see *Sildenafil* at para. 64, *Shire* at para. 87. Accordingly, I see no error in the Federal Court concluding that dissolution rate was an element of the inventive concept of the claims in issue of the 171 Patent, even if that element is omitted in another claim. Indeed, the Federal Court would have fallen into error if it had not included dissolution rate as part of the inventive concept when considering allegations of obviousness of the claims in issue, since these claims explicitly include dissolution rate as an element.

Rovi Guides, Inc v BCE Inc, 2022 FC 874, appeal to FCA filed A-186-22

(b) *Stage 2: The Inventive Concept*

[300] At stage 2, the Court is to “identify the inventive concept of the claim in question or if that cannot readily be done, construe it.” On occasion, the inventive concept may be “readily apparent” where there is agreement on it. If not, the inventive concept needs to be construed (*Apotex Inc. v Shire LLC*, 2021 FCA 52, at para. 67). To do that, the Court is to first determine whether it can be identified from the previously completed claims construction exercise. Second, where it is not possible to grasp the nature of the inventive concept solely from those claims, the Court may have regard to the patent specification to determine if it provides any insight or clarification into the inventive concept of the claim(s) in issue (*Sanofi* at para 77).

[301] If this step is necessary, “it is not permissible to read the specification in order to construe the [inventive concept of the] claims more narrowly or widely than the text will allow” (*Sanofi* at para 77). While an inventive concept is an attribute of the claims, it differs from claims construction. As such, though the process for the identification of an inventive concept bears a striking resemblance to that of claims construction, it is nonetheless a distinct, separate exercise (*Shire LLC* at para. 68). It is the inventive concept(s) of the claim(s) in issue that must be the focus of an obviousness inquiry, not the inventive concept of the patent (*Shire LLC* at para 69).

Rovi Guides v BCE – principles applied

[302] ... Each of the following elements is alleged to be in the 061 Claims but is absent from the prior art:

- (1) A remote program guide access device upon which an IPG is implemented;
- (2) The presence and use of a remote access IPG (as opposed to a non-IPG interface) to issue the command to record; and
- (3) A local IPG that receives the communication from the remote access device and controls the recording of the program.

[303] There was no inventive concept for the 061 Claims expressly identified by either technical expert other than the claim language itself. In particular, there is no language in the 061 Claims that provides that the Local IPG directly receives the communication from the Remote Device, as is advocated by Rovi. The focus of the 061 Claims is on the combination of two ideas: (1) a user using a remote device upon which an IPG is implemented to issue a command to record a program on a device inside the user's home; and (2) an IPG running on the device inside the home that is configured to receive the command and control the recording of the program.

...

[311] Based on the evidence before me, I conclude that the elements purportedly missing from Blake would nevertheless be obvious to include in Blake.

...

[315] Given my conclusion that that there was no difference between the prior art and the inventive concept, I will be brief in performing my stage 4 analysis.

Janssen Inc v Sandoz Canada Inc, 2022 FC 715, appeal to FCA filed A-128-22

(4) *Step 2*: Identify the Inventive Concept

[166] The parties submit that Asserted Claims are not ambiguous, and the inventive concept of each claim is readily discernable from reading the claims without requiring recourse to the 770 Patent disclosure. While the 770 Patent disclosure states that the patentee “surprisingly found that the combination of [macitentan] with a compound having PDE5-inhibitory properties results in an unexpected synergistic effect in the treatment of diseases wherein vasoconstriction is involved”, the parties and their experts agree that a synergistic effect is not part of the inventive concept. Accordingly, they submit that the inventive concept of claim 21 is the use of macitentan in combination with a PDE5-I to treat a disease wherein vasoconstriction is involved in human patients. The inventive concept of claims 22-31 is the same, except that these claims specify PDE5-Is (claims 22-25), diseases involving vasoconstriction (claims 26-28), or both (claims 29-31).

[167] I agree with the parties on the above points. This is not a case where additional details from the patent specification as a whole permit the inventive concept of one or more claims to be “fully and fairly understood”: *Allergan Inc v Sandoz Canada Inc*, 2020 FC 1189 at para 173. In any event, in my view there is no difference between the inventive concept as identified from reading the Asserted Claims alone, or with the benefit of additional information in the 770 Patent specification: *Sanofi* at para 77; *Apotex Inc v Shire LLC*, 2021 FCA 52 at paras 67-69. I agree that the skilled person would not interpret synergy to form part of the inventive concept. The skilled person would understand the statement about synergy to refer to the observed results from experiments in rat models.

Merck Sharp & Dohme Corp v Pharmascience Inc, 2022 FC 417, appeal to FCA filed A-91-22

D. Inventive Concept of the Claims in Question

[164] There is some debate in the jurisprudence as to whether the obviousness analysis requires identification of an inventive concept or whether the essential elements as construed by the claims is the more appropriate end-point: *Atazanavir* at paras 65-70, 74-78; *Ciba* at paras 64-68, 72-77.

[165] As noted in *Atazanavir*, the intention of the obviousness test set out in *Sanofi* was not to change the law of obviousness; the term “inventive concept” is not materially different from the previously used term “solution taught by the patent”: *Atazanavir* at paras 65-68, 75.

[166] **PMS argues that recourse should not be made to the inventive concept.** Rather, the second point in the obviousness analysis should be the essential elements of the claims. ...

[167] **Merck argues that the inventive concept must be determined as it is a mandatory part of the *Sanofi* test. It contends that PMS’ argument ignores the latest word on the inventive concept from the FCA in *Shire*.** ...

[168] As noted in *Shire* at paragraphs 75 and 76, while identification of the inventive concept follows from, and is informed by, claims construction, claims construction and determination of the inventive concept serve two different purposes. Claims construction occurs before any assessment of the validity of the claims; its purpose being to interpret and determine the scope of the claim by looking at its subject matter. Identification of the inventive concept occurs within the assessment of the validity of the claims. Its purpose is to determine the proposed inventive aspect of the claim, to facilitate the obviousness analysis.

[169] This is particularly important if recourse to the specification is required, such as in the case where a bare chemical formula is claimed or in the case of a selection patent: *Sanofi* at 77-78; *Shire* at para 76. In such case, not all the chemical’s properties will inform its inventive concept, rather only those that provide the solution taught by the patent: *Shire* at para 76; *Atazanavir* at paras 74-75.

Merck v Pharmascience – debate not resolved

[170] As was acknowledged by PMS in oral argument, if the patent is a selection patent, the Court may have regard to the inventive concept and may look to the disclosure to nourish what it is about the species that is claimed that is selective over the genus. However, PMS asserts that the 400 Patent is not a selection patent and there is no advantage explicitly disclosed with respect to the crystalline monohydrate claimed in the 400 Patent.

...

[172] The primary differences between the experts' views on the inventive concept is whether it should include the purported advantages of the DHP salt of sitagliptin crystalline monohydrate and whether the inventive concept should be considered on a claim-by-claim basis. As set out above, in my view, the 400 Patent can be viewed as a selection patent. All experts, including PMS' experts, recognized that the DHP salt of sitagliptin crystalline monohydrate purports to have enhanced chemical and physical properties.

...

[174] In my view, the inventive concept of claim 4 is the identification of the compound sitagliptin dihydrogenphosphate monohydrate with its enhanced chemical and physical properties over sitagliptin free base and the hydrochloride salt.

Angelcare Canada Inc v Munchkin, Inc, 2022 FC 507, appeal to FCA filed A-105-22, A-106-22

[396] ... The inventive concept is thus, as Justice Rennie puts it [in *Shire*], what makes the claim inventive (*Shire*, para 76). One may otherwise define it as the solution taught by the patent to the problem that motivated the invention (see *Shire* at para 84, citing *Bristol-Myers* at para 75).

...

[370] The inventive concept should be primarily derived from the claims themselves, although recourse to assistance from the specification (i.e. the patent's disclosure) is permissible (*Sanofi*, para 77; see also *Apotex Inc. v ADIR*, 2009 FCA 222, para 58). Indeed, the inventive concept of a claim cannot be limited to the essential elements of the claim, as this would simply be a repetition of the claims construction exercise (*Shire*, para 74). Additionally, Justice Hughes warns in *Abbvie Corporation v Janssen Inc*, 2014 FC 55 at paragraph 123 (rev'd on other grounds 2014 FCA 242) that "[t]he Court is required to focus on the invention as claimed in the claims at issue, and not on some generalized concept of invention as expressed in the patent as a whole" (see also *Shire*, para 69, citing *Unilever PLC. v Chefaro Proprietaries Ltd.*, [1994] RPC 567 (Eng. C.A.) at 580).

[371] While each claim may have its own inventive element, there is nonetheless a "single, overarching concept [that] connects every claim of a patent, with its genesis usually in the independent claim(s)" (*Shire*, para 86). The discrete claims' inventive concepts can thus be "stitched together" under a single, common inventive concept (*Ibid*, para 87, citing *Ciba* at para 72). The individual claims' discrete inventive concepts may be redundant to a degree, so long as they are ultimately linked together to this common inventive concept for the patent as a whole (*Ibid*, para 88).

Angelcare v Munchkin – principles applied

[389] The notion of inventive concept is meant to assist in the determination of what makes the claim inventive, what is the solution taught by the patent. ...

...

[393] The parties are in agreement regarding the inventive concept of most of the patents. Generally, the parties limited themselves to identifying one overarching inventive concept per patent, with the Plaintiffs adding one element to certain patents.

...

[394] The parties agree that the inventive concept of the 128 Patent is the structural features on the cassette's bottom and cover that improve shift-resistant stackability when the cassettes are stacked one-on-top-of-the-other and assist with the upright positioning and proper alignment of a cassette in the diaper pail's cassette holder (PCA, para 352; DCA, para 229). I agree as well. The claims directly speak of these structural features and how they operate together to improve shift-resistant stackability and the correct orientation of the cassette in the diaper pail's holder. This inventive concept is thus "readily apparent", both on a reading of the claims and as between the parties (*Shire*, para 67).

[395] ... Moreover, this concept emanates directly from the claims and is coherent with a claims-based approach to discerning the inventive concept (*Shire*, para 69), as it is found directly in the claims language of independent Claim 1.

...

[405] The Plaintiffs add that another inventive concept is the diaper pail's partial lid with a funnel-shaped opening that covers the cassette and allows the insertion of diapers while the cassette is loaded in the holder (PCA, para 357). I agree insofar as this feature, defined at Claim 1(e), is unique and not otherwise captured by the overarching inventive concept discussed above. It thus cannot be subsumed into some generalized notion of the inventive concept, but must be taken into account in an analysis that is attentive to the language and subject-matter of the claims.

Inventive concept controversial?

Case	Parties agreed on “inventive concept”?
<i>Rovi Guides, Inc v BCE Inc</i> , 2022 FC 874, appeal to FCA filed A-186-22	Yes
<i>Janssen Inc v Sandoz Canada Inc</i> , 2022 FC 715, appeal to FCA filed A-128-22	Yes
<i>Merck Sharp & Dohme Corp v Pharmascience Inc</i> , 2022 FC 417, appeal to FCA filed A-91-22	No
<i>Angelcare Canada Inc v Munchkin, Inc</i> , 2022 FC 507, appeal to FCA filed A-105-22, A-106-22	Yes
<i>Pharmascience Inc v Bristol-Myers Squibb Canada Co</i> , 2022 FCA 142, appeal to SCC filed no. 40400	No

SCC unlikely to clarify?

Leave not filed

- *Bristol-Myers Squibb Canada Co v Teva Canada Ltd*, 2017 FCA 76
- *Tearlab Corporation v I-MED Pharma Inc*, 2019 FCA 179

Leave refused

- *Ciba Specialty Chemicals Water Treatments Limited v SNF Inc*, 2017 FCA 225
- *Apotex Inc v Shire LLC*, 2021 FCA 52

Leave filed

- *Pharmascience Inc v Bristol-Myers Squibb Canada Co*, 2022 FCA 142, appeal to SCC filed no. 40400 (leave under review)

Is inventive concept coherent with:

- 1) Inventor: (i) the person who first conceives of a new idea or discovers a new thing that is the invention; and (ii) the person that sets the conception or discovery into a practical shape”. (*Apotex Inc v Wellcome Foundation Ltd*, 10 CPR (4th) 65 at para 30)
- 2) Essential elements:
 - “An “essential element” of a patent is either: an element which, if varied, would make a difference to the way in which the invention works, or an element which is essential irrespective of its practical effect according to the intent of the inventor, expressed or inferred from the claims”. (*Free World Trust v Électro Santé Inc*, 2000 SCC 66 at para 31)
- 3) Essential to the invention:
 - “In summary, it appears to me that the inventor's entire disclosure relates to a device for cutting potatoes for french fries from the center portion of the potatoes to achieve long, uniform strips while at the same time removing the outside cuts or slabs and diverting them for other uses. The slabbing blades and separation means are essential to the invention. The device claimed in claim 16 will not produce the promised result since no reference is made to the essential outer slabbing blades and the separation of such outer slabs at the cutter . Therefore, applying the principles derived from the foregoing jurisprudence, it is clear that claim 16 is broader than the invention disclosed and was properly held to be invalid by Strayer J”. (*Amfac Foods Inc v Irving Pulp & Paper Ltd*, [1986] 12 CPR (3d) 193 (FC) at para 33)

Thank you!

Slides prepared by, and thanks to Alexandra Johnson Dingee
and Christian Bekking of Smart and Biggar

Inventive Concept

Taking you Away on a
Magical Mystery Tour of its Meaning

Ron Dimock

University of Toronto Patent Colloquium

Friday, November 11, 2022

The Problem with Inventive Concept

It is used in the test for

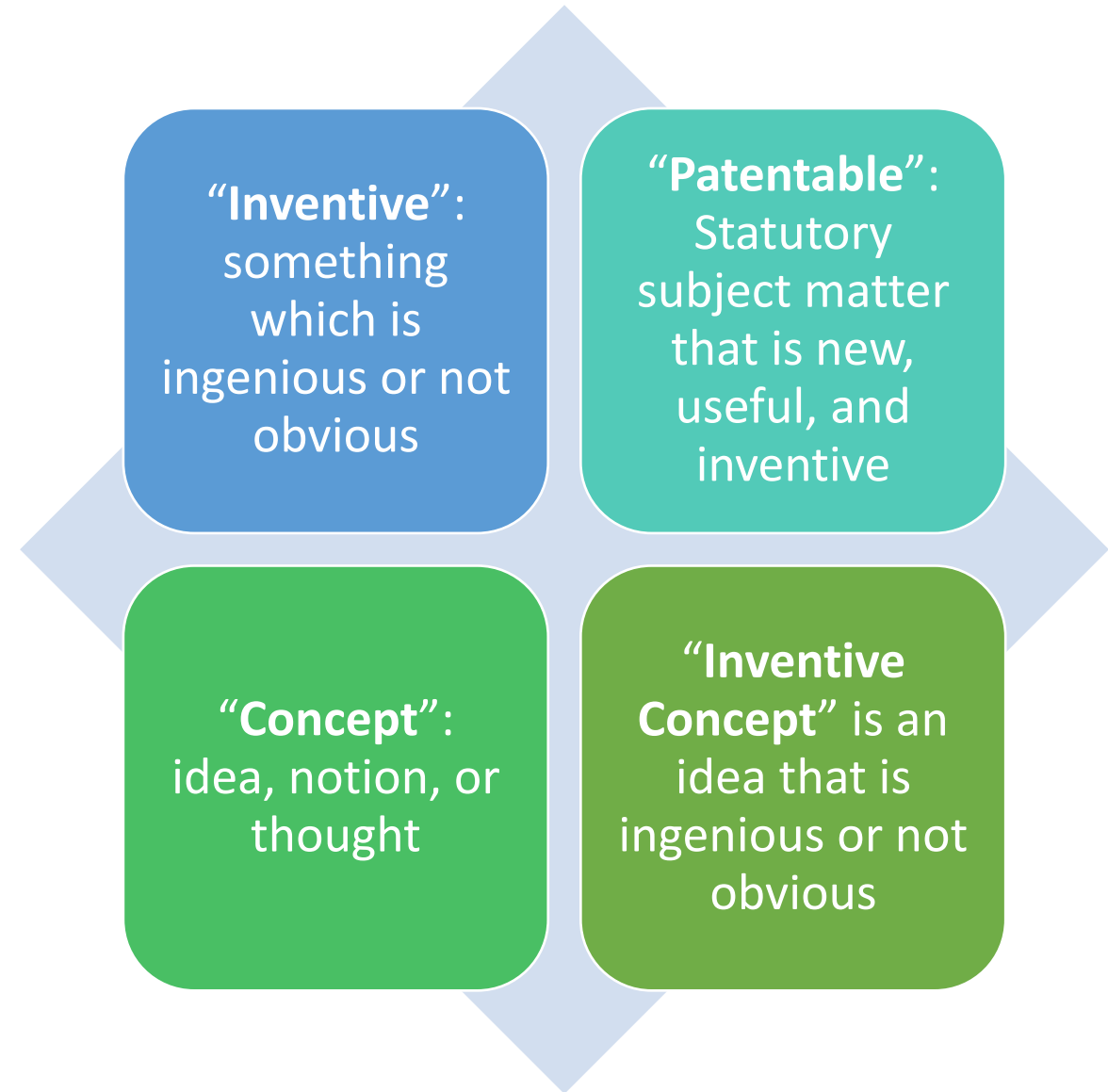
obviousness in Canada and UK,
infringement in UK, and
patentable subject matter in US

and yet,

it is not a statutory term of art, and
there no universally accepted, workable
definition



Ordinary definitions



Inventive Concept of What in Patent Law

of the
invention
made, or

of the
invention
described, or

of the
invention
claimed

Inventive Concept of the Invention Made

An invention is made when the inventive concept (**definite and permanent idea of the operative invention**) is reduced to practical shape

An inventor is the natural person who “came up with the inventive concept”

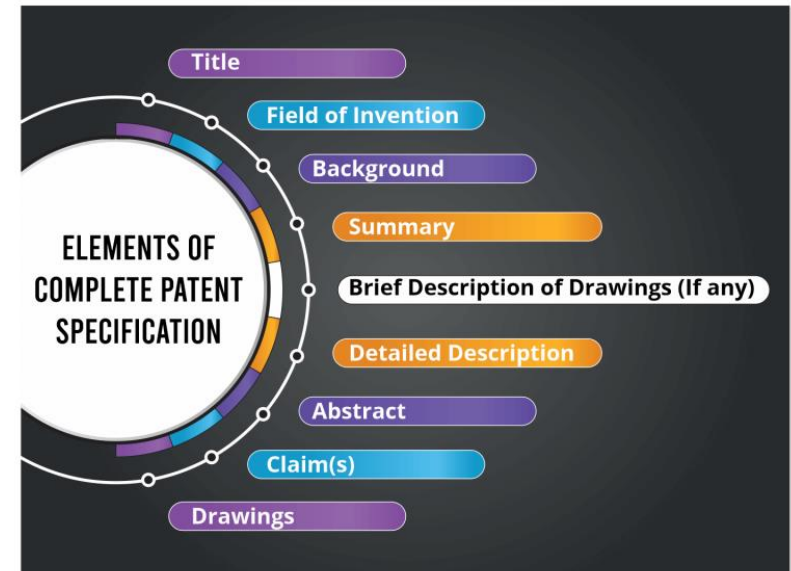


Inventive Concept of the Invention Described

The claims must be commensurate with the invention described in the disclosure (the inventive concept)

The claims cannot be broader than the inventive concept, as described in the disclosure

The inventive concept of the patent is not the promise of the patent



Inventive Concept of the Invention Claimed

But it is so-called the ‘inventive concept of the claim’ which the SCC in the Sanofi case refers to in its test for obviousness

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

Section 28.3 : **‘subject matter of the claim’** must not be obvious

The subject of each ground of invalidity – patentable subject-matter, novelty, utility, obviousness and statutory prohibition – is “the subject matter defined by the claim”

And so, what is the **‘inventive concept of the claim’**?



Inventive Concept of the Invention Claimed

Lord Hoffmann: The patentee is entitled to have the question of obviousness **determined by reference to his claim and not to some vague paraphrase based upon the extent of his disclosure in the description.**

Sir Hugh Laddie: The inventive concept under the peripheral theory is an overarching idea that is protected through the claims. In practice, this means that the **inventive concept** under the peripheral theory is **instantiated** (concrete instance of an abstraction) in the **claims.**



Inventive Concept of the Invention Claimed

Lord Walker: ‘Inventive concept’ is concerned with the identification of the **core (or kernel, or essence)** of the invention - **the idea or principle**, of more or less general application **which entitles the inventor’s achievement to be called inventive**

Not the same as “technical contribution to the art” which is an evaluation of the inventive concept



Inventive Concept of the Invention Claimed

Lord Neuberger: (in relation to the doctrine of equivalents) considered the term "**inventive concept**" to be **synonymous** with the **inventive core** of the claim, to be ascertained by **focusing on the problem underlying the invention**

Sir Robin Jacob: one must "**strip out unnecessary verbiage**" of the claim

Different claims can, and generally will, have **different inventive concepts**



Inventive Concept of the Invention Claimed

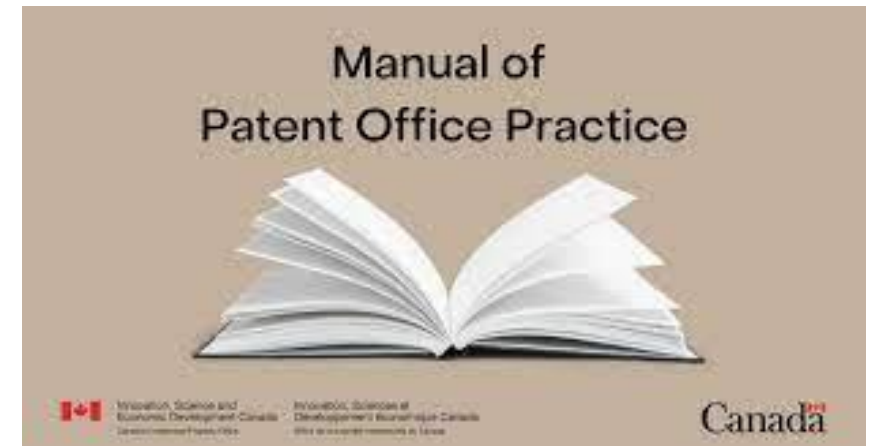
- **The Supreme Court** in Alice: at [Mayo](#) step two, ...must examine the elements of the claim to determine whether it contains an "inventive concept" sufficient to "transform" the claimed abstract idea into a patent-eligible application.
- **well-understood, routine or conventional** claim elements **cannot form an inventive concept.**
- Inventive concept has been variously termed the **“essence,” “gist,” “heart,” or “thrust” of the invention; the “essential features”** of the invention;



Manual of Patent Office Practice

The **inventive concept** comprises the feature or features of the claim that appear to be **inventive over the common general knowledge and/or which the applicant appears to consider inventive**

The **inventive concept** may be determined to be a combination of the same essential elements identified during the purposive construction analysis and **will generally include at least some of the essential elements**, but it might not include all the essential elements of the claim as construed.



Shire

Each claim can give rise to its own inventive concept, and the inventive concepts of the various claims may overlap or replicate each other

Construing the inventive concept is analytically distinct from claims construction.

A **single, overarching inventive concept** connects every claim of a patent, with its genesis usually in the independent claim(s).

The inventive concept is not “the essential elements of the claim itself”

Its purpose is to help determine **what, if anything, makes the claim, as constructed, inventive.**

The inventive concept may be “readily apparent” at times

The inventive concept of a claim is **not materially different** from the **solution taught by the patent.**



Federal Court

It is permissible to combine “utility” with what is said in the claim to determine the ‘inventive concept

The “inventive concept” of the claim is not restricted to the claim itself – one is permitted to resort to the specification in construing it

The inventive concept has lost its way from being found in the claims to wandering off to some place in the disclosure



CIBA

Supreme Court first introduced the “inventive concept” in *Apotex Inc. v. Sanofi-Synthelabo Canada Inc.*, but did not provide much explanation of what it means

The term has since proven difficult to define

Identifying the “inventive concept” often leads to distraction and unnecessary satellite debates



Inventive Concept of the Claim



- = some of the essential elements of the claim
- = essence or clever bit or core or kernel or gist or heart of the claimed invention
- = idea or principle, of more or less general application, which entitles the inventor's achievement to be called inventive
- = unnecessary verbiage of the claim
- = solution to the problem in the art taught by the patent

Inventive Concept of the Claim



- = may be readily apparent from the claim alone
 - = know it when we see it
 - = it is **not** the “technical contribution to the art”
 - = it is **not** the “promise of the patent”
 - = it is **not** the “routine or conventional elements” of a claim
 - = it is **not** the “essential elements” of a claim
- Then, what is it?

The End

I acknowledge and appreciate the help received from Catherine Phillips Smith of Gowling in preparing this presentation

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What to do to resolve the present situation? Q 1

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Friday, November 11, 2022



What to do to resolve the present situation? Q 1

Patent Trial counsel could make submissions about the meaning of Inventive Concept and ask the Federal Court trial judge to include in their Reasons for Judgment a principled analysis of the meaning of Inventive Concept



What to do to resolve the present situation? Q 1

A judge of the Federal Court could politely ask in Reasons for Judgment that on any eventual appeal that the Court of Appeal weigh in on the question of the meaning of Inventive Concept



What to do to resolve the present situation? Q 1

The Federal Court of Appeal could sit as a panel of five to review the law of obviousness and the use and meaning of Inventive Concept



What to do to resolve the present situation? Q 1

The Federal Court of Appeal could invoke section 37.1 of the Supreme Court Act

S 37.1 Subject to sections 39 and 42, an appeal to the Supreme Court lies with leave of the Federal Court of Appeal from a final judgment of the Federal Court of Appeal where, in its opinion, the question involved in the appeal is one that ought to be submitted to the Supreme Court for decision.

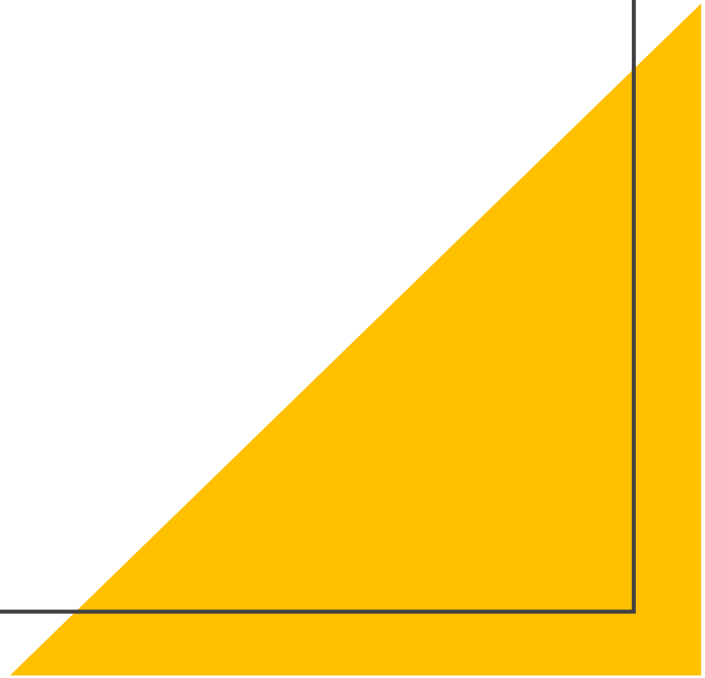


One Inventive Concept – Question 3

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One Inventive Concept – Question 3

One Invention per Patent

Section 36 (1) A patent shall be granted for one invention only

One overarching Inventive Concept is instantiated in the independent claim

Same Inventive Concept in every other claim

An added feature in a dependant claim is merely a claim limitation, adequate to overcome a bare novelty objection, but having no substantial bearing on the inventive concept

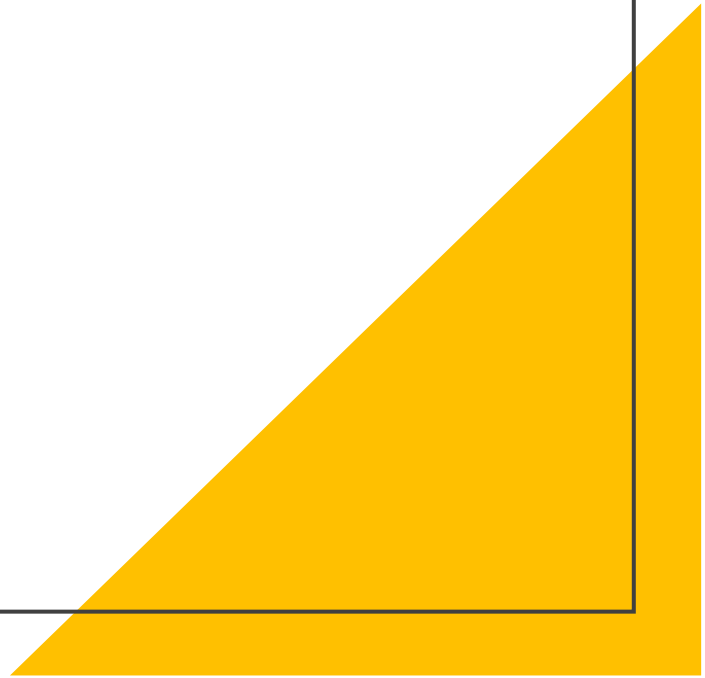
If the single, common inventive concept in the independent claim is found to be non-obvious, the Court will not need to consider the dependant claims

Resort to the Disclosure – Question 4

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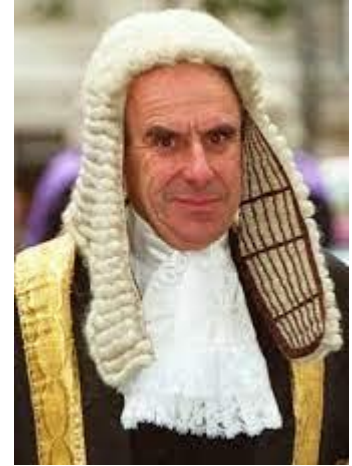
Friday, November 11, 2022



Resort to the Disclosure – Question 4

Lord Hoffman wrote in *Conor v Angiotech*:

In my opinion, however, the invention is the product specified in a claim and the patentee is entitled to have the question of obviousness determined by reference to his claim and not to some vague paraphrase based upon the extent of his disclosure in the description





On November 23, 2011, at University College London, Justice Rothstein adjudicated a moot court in *Conor v. Angiotech*, with arguments by Sir Robin Jacob and Lord Hoffmann

The Moot Court

Judgment



Justice Rothstein, commented on the restrictive use of the description in the disclosure to identify the inventive concept of the claims in his 'decision' at the University College London Moot Court, where he wrote:

- [21] I accept that a specification may help clarify any ambiguities in a claim and thus its inventive concept. However, in my opinion, the meaning of a claim cannot be narrowed or expanded by what appears in the rest of the specification; **nor therefore may the scope of the inventive concept be so narrowed or expanded.**
- 22] ... That **concept must be found in the words of the claim alone.**



So long to Inventive Concept - Question 6

- Ron Dimock
 - University of Toronto Patent Colloquium
 - Friday, November 11, 2022
-

The **Solution** to the Problem with Inventive Concept

In the Sanofi test for obviousness, abandon trying to ascertain the inventive concept of the claim and instead pursue the alternate course of construing the claim



An Alternative Approach to Testing Obviousness

Actavis v ICOS [2019] UKSC 15

In the problem-and-solution approach to obviousness (used in the EPO) there are three main stages:

- (i) determining the '**closest prior art**',
- (ii) establishing the '**objective technical problem**' to be solved, and
- (iii) considering whether **the claimed invention**, starting from the **closest prior art** and the **objective technical problem**, would have been **obvious** to the skilled person.



Am Alternative Approach to Testing Obviousness

It is an **objective assessment of the technical results achieved by the claimed subject-matter of the claim, compared with the results obtained according to the prior art.**

It is then **assumed that the inventor did in fact seek to achieve these results** and, therefore, these results are taken to be the basis for defining the **technical problem** or the **objective of the claimed invention. ...**

The next step is then to decide whether the best prior art **suggested the claimed solution** of this technical problem **in the way proposed by the patent in suit ...”**

Emphasis on the subject matter of the claims



AstraZeneca v. Apotex, 2017 SCC 36

- [31] That is, the Promise Doctrine requires the identification of promises based on a review of the entire specification, i.e. both the claims and the disclosure. **Generally, an analysis regarding issues of validity, such as novelty or non-obviousness, focuses on the claims alone, and only considers the disclosure where there is ambiguity in the claims (*Sanofi-Synthelabo*).** This is in accordance with this Court's direction that claims construction precedes all considerations of validity: *Free World Trust v. Electro Santé Inc.*, 2000 SCC 66, [2000] 2 S.C.R. 1024, at paras. 33-50; *Whirlpool Corp. v. Camco Inc.*, 2000 SCC 67, [2000] 2 S.C.R. 1067, at paras. 42-43. The **Promise Doctrine, by contrast,** directs courts to read both the claims and the **disclosure to identify potential promises**, rather than the claims alone, even in an absence of ambiguity in the claims. After a process of **identifying promises**, the doctrine equates the fulfillment of these promises (by demonstration or sound prediction) with the requirement in [s. 2](#) that an invention be useful. The doctrine then goes on to provide that if **any one of the promises is not fulfilled**, then the utility requirement in [s. 2](#) is not met and the patent, in its entirety, is invalid.

AstraZeneca v. Apotex, 2017 SCC 36

- [37] The Promise Doctrine is **excessively onerous** in two ways: (1) it determines the standard of utility that is required of a patent by reference to the promises expressed in the patent; and (2) where there are multiple expressed promises of utility, it requires that all be fulfilled for a patent to be for a patent to be valid.

Tearlab v I-MED, 2019 FCA 179

- [49] As for the inventive concept urged upon us by the appellant, the judge was correct to reject it. As mentioned earlier, the notion of “volume independence” is **nowhere to be found in the claims at issue**. If Claim 1 was to be construed as including that notion, it would necessarily make the **only claim referring to it (Claim 56) redundant**. As the judge noted, the inventor may well have intended to incorporate the volume independence property in one embodiment, but this is not sufficient to make it part of the claim itself in the absence of clear language to that effect (Reasons at para. 135). This is consistent with this Court’s caution that the emphasis must be on the claim and on the inventive concept that can be derived from the wording of the claim, as opposed to the **amorphous and ill-defined concept that could be derived from the specification as a whole** (see *Ciba* at paras. 74-75, quoting from *Pozzoli SPA v. BDMO SA*, [2007] F.S.R. 37, [2007] EWCA Civ. 588 and *Whirlpool* at para. 45).