

Citation: Arraya, Christina (Re), 2024 CACP 22  
Commissioner's Decision #1681  
Décision du commissaire n° 1681  
Date: 2024-12-17

TOPIC: A11 Application for Patent—Amendment to—New Matter  
B00 Claim—Ambiguity or Indefiniteness (incomplete)  
C00 Disclosure—Adequacy or Deficiency of Description  
F00 Novelty  
O00 Obviousness

SUJET: A11 Demande de brevet—Modification—Nouvelle matière  
B00 Revendications—Caractère ambigu or indéfini (incomplet)  
C00 Divulgation—Caractère adéquat ou inadéquat de la description  
F00 Nouveauté  
O00 Évidence

Application No. 2780249  
Demande n° 2 780 249

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2780249, having been rejected under subsection 199(1) of the *Patent Rules* (SOR/2019-251) ("*Patent Rules*"), has consequently been reviewed in accordance with paragraph 86(7)(c) of the *Patent Rules*. The recommendation of the Patent Appeal Board and the decision of the Commissioner are to refuse the application.

Applicant:

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## INTRODUCTION

- [1] This recommendation concerns the review of rejected Canadian patent application number 2,780,249, which is entitled “SHOFAR WITH DIFFERENT NOISES, SOUNDS FOR AIRCRAFT AND AVIATION PURPOSES” and is owned by CHRISTINA ARRAYA. A review of the rejected application has been conducted by the Patent Appeal Board (“the Board”) pursuant to paragraph 86(7)(c) of the *Patent Rules*. As explained below, the Board’s recommendation is that the Commissioner of Patents refuse the application on the basis that it contains impermissible new matter, that the claims on file lack novelty, would have been obvious and are indefinite, and that the description does not comply with the content requirements of the *Patent Rules*.

## BACKGROUND

### The application

- [2] The application was filed on June 11, 2012. It was laid open to public inspection on December 11, 2013.
- [3] The instant application relates to a device for repelling birds from an aircraft’s running engines. The device approximates the sounds of natural phenomena such as rain and thunder.

### Prosecution history

- [4] On October 16, 2020 a Final Action (“FA”) was written pursuant to subsection 86(5) of the *Patent Rules*. The FA stated that the application is defective on the grounds that the application contained impermissible new matter, the claims on file at the time of the FA (“claims on file”) lacked novelty and would have been obvious, the claims on file are indefinite and that the title of the invention was not compliant with the *Patent Rules*.

- [5] In a February 16, 2022 response to the FA ("R-FA"), the Applicant proposed amendments to the abstract, description and claims. No arguments were provided.
- [6] As the Examiner considered the application not to comply with the *Patent Act*, RSC 1985, c P-4 [*Patent Act*] and *Patent Rules*, pursuant to subsection 86(7)(c) of the *Patent Rules*, the application was forwarded to the Board for review on June 16, 2022 along with an explanation outlined in a Summary of Reasons ("SOR"). The SOR indicated that while the proposed amendments would remedy some of the new matter issues, as well as the indefiniteness issues, they would not remedy the novelty or obviousness issues and would introduce a new defect in relation to the title.
- [7] In a letter dated June 23, 2022, the Board forwarded to the Applicant a copy of the SOR and requested that the Applicant confirm their continued interest in having the application reviewed.
- [8] In a response to the SOR dated September 15, 2022 ("R-SOR"), a duplicate of which was submitted on September 16, 2022, the Applicant confirmed continued interest in having the application reviewed.
- [9] The undersigned Panel was assigned to review the instant application and to make a recommendation to the Commissioner of Patents as to its disposition.
- [10] In a Preliminary Review letter ("PR letter") sent May 22, 2024, the Panel set out its preliminary analysis of the outstanding issues. In particular, the Panel was of the preliminary view that the application was defective because:
- claim 1-3 are unclear;
  - the description, claims and the drawings include new matter extending beyond, and not reasonably inferable from, that which was disclosed in the originally-filed specification;

- even if the above defects were corrected, the invention described and claimed would not have been new or would have been obvious to the person skilled in the art on the filing date of the application; and
- the description is non-compliant with the *Patent Rules* for including a title containing a trademark.

- [11] The Panel was also of the preliminary view that the proposed amendments submitted with the R-FA would not overcome all of the outstanding defects.
- [12] The PR letter provided the Applicant with an opportunity to make both written and oral submissions.
- [13] No written submissions were made in response to the PR letter. An oral hearing was held on September 6, 2024. At the hearing the Applicant requested additional time to propose amendments to the application. As agreed to at the hearing, the Applicant was given until September 27, 2024 to make any further submissions.
- [14] On September 27, 2024, the Applicant submitted proposed amendments to the title, the abstract, the description, claims and the drawings.
- [15] The Panel's final analysis of the outstanding issues is provided below.

## ISSUES

- [16] The issues to be addressed in this final review are whether:
- claim 1-3 are unclear;
  - the description, claims and the drawings include new matter extending beyond, and not reasonably inferable from, that which was disclosed in the originally-filed specification;
  - the subject-matter of the claims on file lacked novelty;
  - The subject-matter of the claims on file would have been obvious; and

- the description is non-compliant with the *Patent Rules* for including a title containing a trademark.

[17] After considering the application as it was at the time of the FA, we review the proposed amendments submitted by the Applicant in the post hearing submissions dated September 27, 2024 (“post-hearing submissions”) to determine if they would be considered a necessary amendment under subsection 86(11) of the *Patent Rules*.

## **CLAIM CONSTRUCTION**

### **Legal Principles and Office Practice**

- [18] Purposive Construction is antecedent to any consideration of validity (*Free World Trust v Électro Santé Inc*, 2000 SCC 66 [*Free World Trust*] at para 19).
- [19] In accordance with *Free World Trust* and *Whirlpool Corp v Camco Inc*, 2000 SCC 67, purposive construction is performed from the point of view of the person skilled in the art in light of the relevant common general knowledge (“CGK”), considering the whole of the disclosure including the specification and drawings. In addition to interpreting the meaning of the terms of a claim, purposive construction distinguishes the essential elements of the claim from the non-essential elements. Whether 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.
- [20] “Patentable Subject-Matter under the *Patent Act*” (CIPO, November 2020) [PN2020–04] notes that all elements in a claim are presumed essential unless such presumption is contrary to the claim language, or it is established otherwise (see also *Free World Trust* at para 57, *Distrimedic Inc v Dispill Inc*, 2013 FC 1043 at para 201).

## **Analysis**

### *The person skilled in the art*

- [21] In the PR letter at page 4, we set out our preliminary view of the person skilled in the art, supplementing that taken from the FA:

In the FA under the assessment of obviousness at page 6, the skilled person was identified as follows:

The person skilled in the art is a team consisting of an electrical engineer and a person knowledgeable in aircraft operations, such as a pilot or aerospace engineer or technician.

The above characterization was not disputed in the R-FA.

Given the nature of the claimed device (for approximating natural sounds that repel birds), it is our preliminary view that the team forming the skilled person would also include a wildlife management expert.

- [22] The Applicant did not offer any comments at the oral hearing or in the post-hearing submissions in respect of the above. We proceed on this basis.

### *The relevant common general knowledge*

- [23] We set out at pages 4 and 5 of the PR letter our preliminary view as to the relevant points of CGK, which included that taken from the FA as well as further points identified by the Panel based on the content of a prior art document:

In the FA under the assessment of a lack of novelty at page 5, the common general knowledge was identified as follows:

[T]he skilled person is knowledgeable of the hazard to aircraft posed by birds and is also knowledgeable in the operation of aircraft. The components needed to produce sounds to repel birds were also

common general knowledge, namely speakers and control systems.  
It was also common general knowledge that sound travels at a speed of about 343 m/s.

The above characterization of the CGK was not disputed by the Applicant in the R-FA.

To the above we would add CGK that, in our preliminary view, may be taken from prior art document D1 cited in the FA, namely:

D1            WO 2010/023253 A1   Butler            March 4, 2010

We take from D1 that the common general knowledge also included knowledge of ground-based omni-directional noise emitters for repelling birds at airports, such as discussed in prior art document D1 at page 4, lines 11-13. D1 discloses that it was well-known that since such noise emitters are omni-directional, birds that are not in the projected aircraft flight direction and therefore not a risk can hear the noises as well. This can increase their rate of habituation, reducing the effectiveness of such noise emitters.

Further, given the inclusion in the characterization of the skilled person of a wildlife management expert, it is our preliminary view that the relevant CGK should also include knowledge of wildlife management at airports and knowledge of interactions between birds and aircraft in flight.

- [24]    The Applicant did not offer any comments in respect of the above at the oral hearing or in the post-hearing submissions. We therefore proceed on the basis of the relevant CGK set out above.

*The claims on file*

- [25]    The instant application contains 3 claims on file, dated September 20, 2018, all of which are independent:



1. A Shofar with different noises, sounds for aircraft and aviation purposes system.

2. The Shofar with different noises, sounds for aircraft and aviation purposes system:

A pre-recorded, computer-storing to produce natural unpleasant for birds only, permanent sounds, whether on air or on ground.

3. The Shofar with different noises, sounds for aircraft and aviation purposes system:

A device installed at the tail end of the aircraft, electronically transmitted natural sounds unpleasant only for birds which cause birds to avoid going close to the aircraft, is a three-dimensional, circularly travelling sound wave within a realistic radius North, East, South and West of the aircraft, with a velocity of three knots per minute.

[26] We indicated in the PR letter at page 5 that with respect to the meaning and scope of the claim language, most of the claim language did not raise any issues of clarity. However, two indefiniteness issues were identified, which were dealt with before considering the other defects, as we do here as well.

[27] In respect of the essentiality of claim elements, we indicated at page 5 of the PR letter that this would be briefly addressed after the assessment of new matter, since any elements added during prosecution that are considered to be impermissible new matter cannot form part of the essential elements of the claims. We do the same here.

## **INDEFINITENESS/LACK OF CLARITY**

### **Legal Principles**

[28] 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.

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

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

## Analysis

- [30] At page 6 of the PR letter, we set out our preliminary analysis in respect of the indefiniteness issues identified in the FA in relation to the claims on file. We were of the preliminary view that the use of the term “shofar” in the claims and the particular specification of the speed of the sound wave in claim 3 on file were indefinite:

The FA at page 7 indicated that the term “shofar” in claims 1-3 is a term created by the Applicant and that the skilled person would not understand its meaning.

As a proper noun, “Shofar” is a term used to describe a horn blown like a trumpet, which is made from a ram’s horn and is used during Jewish religious observances (<https://www.merriam-webster.com/dictionary/shofar>). Given this meaning, such a term would not seem consistent with the subject-matter of the present application. Its use is not consistent with the device intended to approximate the natural sounds that would typically repel birds, such as rain, tremors, thunder, etc. The term should

be removed and replaced with language more descriptive of the function of the device.

In the FA at page 8, in relation to a defect relating to the title, it was noted that the term “shofar” is a trademark and coined word. The Canadian trademark “SHOFAR”, registration number 1590118, relates to decorative glass, so even if such a term was identified as a trademark (as required by section 52 of the Patent Rules), its intended use would also be at odds with the subject-matter of the present application. We note that there does exist a Canadian registered trademark “AIRCRAFT SHOFAR”, registered in the Applicant’s name, which relates to an “aircraft sounding and warning device.” Such descriptive language may be more appropriate to use in the claims of the instant application.

In view of the above, it is our preliminary view that the use of the word “shofar” in the claims would lead to confusion as to the claimed subject-matter and therefore makes the claims indefinite.

The FA also indicated that the specification in claim 3 of a velocity of the sound wave being three knots per minute makes the claim indefinite since it conflicts with the known speed of sound propagating through air.

We first note that “knots” is itself a measure of velocity and so “knots per minute” would seem to refer to a measure of acceleration. In any case, a value of three knots would conflict with the skilled person’s generally accepted values of the speed of sound in air, which would be considerably higher. This would lead to confusion and cause the claim as a whole to be indefinite.

[31] None of the above was disputed by the Applicant at the oral hearing or in the post-hearing submissions. As discussed later, the Applicant proposed amendments to the claims on file to address the indefiniteness defects.

[32] In light of the above, we are of the view that claims 1-3 on file are indefinite and therefore do not comply with subsection 27(4) of the *Patent Act*.

## NEW MATTER

### Legal Principles

- [33] Section 38.2 of the *Patent Act* sets forth the conditions under which amendments may be made to the specification or drawings of a patent application. The relevant provisions for the present case are the following:

38.2 (1) Subject to subsections (2) to (3.1) and the regulations, the specification and drawings contained in an application for a patent in Canada may be amended before the patent is issued.

#### Restriction

(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.

- [34] The question as to whether matter added to the specification or drawings by amendment complies with subsection 38.2 of the *Patent Act* is considered from the point of view of the skilled person.
- [35] The specification of a patent application includes a description and one or more claims. It follows that a determination as to whether new matter has improperly been added to the specification and/or drawings by way of amendment requires a comparison of the description, claims and drawings on file (in this case, at the time of the Final Action), that is, the description and claims of September 20, 2018, to the description originally filed on June 11, 2012 (the original application lacking any claims or drawings) in order to determine if any changes would have been reasonably inferred from the original description by the skilled person.
- [36] There is very little jurisprudence on the assessment of whether or not an amended specification or drawings complies with section 38.2 of the *Patent Act*.

However, the Federal Court of Appeal has cautioned against using the UK approach to the determination of impermissible new matter, namely whether the new matter was disclosed explicitly or implicitly in the original specification or drawings (*Western Oilfield Equipment Rentals Ltd. v M-I LLC*, 2021 FCA 24 [*Western Oilfield*] at paras 140-143). *Western Oilfield* was later considered in *Abbvie Corporation v Jamp Pharma Corp*, 2023 FC 1520. At paras 421-422 the Federal Court summarized the concerns with using the UK approach as presented in *Western Oilfield*. However, the Court did not clearly define the extent of “reasonably to be inferred.” The Court did comment at para 426 that “it would be unfair to allow applicants to later add subject-matter that was not **suggested by the specifications**” and concluded their analysis at para 444 by noting that the Appellant “has not **gained anything more than it originally had.**” [Emphasis added]

## Analysis

[37] At pages 8-9 of the PR letter, we first discussed the content of the instant application as originally filed on June 11, 2012, which lacked any claims or drawings. We noted the issues that may arise as a result of a minimal original description of an invention and the restrictions on the use of an abstract as a source for later additions to the specification and any drawings:

On the filing date (June 11, 2012) the application contained neither a set of claims nor drawings. It did contain a description, which read as follows:

### DESCRIPTION

A large percentage of aircraft accidents are due to birds entering the engine area of the aircraft, and eventually getting entangled therein. Birds die and aircraft engine need to be either cleaned up or replaced. This, on top of the delays in scheduled flights, hotel

accommodations and other costs for airline passengers, and the million-dollar compensation for loss of life and property.

Thru the decades, various sounds have been developed aimed at causing birds not to go near the aircraft engine, but with not much success.

The reason by birds are attracted to the whirr of a running aircraft engine, at whatever altitude, is that the air waves generated by the engine, make easy enjoyable gliding for them. The birds do not have to exert any flying effort, they will just glide or float, in the air waves or wind vibrations coming from the running engine. Hence, the attraction to running engine aircraft.

There are natural phenomena, i.e. rain, tremors, thunder, etc., that birds avoid or flee from following their survival instinct.

**The sound produced in this device approximates the sound of the above-mentioned natural phenomena, in terms of frequency, velocity, and volume such that even within a five hundred meter radius birds instinctively recognize, resulting in their fleeing away from the aircraft's running engine.** [Emphasis added]

Most of the material in the description that was submitted on the original filing date relates to background material that would have been generally known to the person skilled in the art at that time. In our view, only the last paragraph discusses the sound producing device that was later attempted to be described and claimed through amendment to the application.

On the filing date the application also included an abstract, which read:

ABSTRACT

This invention is a device designed to produce sounds which cause birds to depart/flee from any running aircraft engine, whether on air or on ground.

The pre-recorded, computer-stored sound, is a three-dimensional, circularly travelling sound wave of a velocity and volume peculiarly perceived by birds (Class AVIS) only, as danger signals causing them to flee/depart from running aircraft engines.

The components are:

- a) a sensor which detects or is activated by birds flying within a realistic radius, North, East, South, and West of the aircraft;
- b) a computer device in the cockpit which automatically generates sounds transmitted electronically to the sensor (installed at the tail end) and further released into the atmosphere within the above-specified radius;
- c) electrical system connecting sensor and computer device;
- d) sound box.

As mentioned above, on the filing date the application contained neither a set of claims nor drawings. Although a set of claims and drawings are not required in order to obtain a filing date, eventually a patent application must include at least one claim (subsection 27(4) of the *Patent Act*) and, in the case of a machine (of which the invention of the present application is an example) or in any other case in which an invention admits of illustration by means of drawings, a set of drawings (subsection 27(5.1) of the *Patent Act*).

A problem that may arise as a result of filing an application containing only a minimal description, as was done in this case, is that when the required claims and drawings, and perhaps a fuller description, are subsequently added by way of amendment, the amendment may run afoul of section 38.2 of the *Patent Act*. That is, any matter contained in the amendment that would not be reasonably inferred by the

skilled person from the originally-filed description cannot be added to the application.

As for the matter included in the abstract on the filing date, it must be noted that an abstract does not form part of the specification (description and claims) and cannot be taken into account for the purpose of interpreting the scope of protection desired or obtained (subsection 55(8) of the *Patent Rules*). An abstract cannot form the basis of support for subject-matter that was not present or reasonably inferred from the specification or drawings as originally filed (*Manual of Patent Office Practice*, revised October 2019 (CIPO) at §13.03). An abstract is intended to be simply a summary for searching purposes.

In relation to the present assessment, the subject-matter that appears only in the abstract on the filing date cannot be used to support the subsequent addition of subject-matter to the specification or drawings.

- [38] We then discussed the content of the description, claims and drawings on file, identifying the content which we preliminarily considered to represent the addition of impermissible new matter. We set those discussions out below.

### *The description*

- [39] At pages 10-11 of the PR letter, we identified the portions of the description which, in our preliminary view, represented the introduction of impermissible new matter, as well as our associated reasons:

We have indicated below, through strikeouts of the relevant text, what portions of the amended description, dated September 20, 2018, are preliminarily considered to represent impermissible new matter. The reasons for our preliminary view on this matter are set out after the quoted text. Of course, deletion of the struck out portions will not itself lead to an acceptable description. The problematic language will need to be replaced with language in line with or reasonably inferable from, the originally filed description.



## SHOFAR WITH DIFFERENT NOISES, SOUNDS FOR AIRCRAFT AND AVIATION PURPOSES

### FIELD OF THE INVENTION

This invention relates to an on-board protection system for an aircraft against airborne animals approaching the aircraft whether on air or on ground.

### TECHNICAL FIELD

This invention relates generally are a ~~pre-recorded storing device installed at the tail end of the aircraft~~, and more particularly for birds to hear unpleasant birds sound position detection system and method thereof for are Shofar ~~(like vehicle horn purposes)~~ produces noises, sounds.

### DETAILED DESCRIPTION OF THE INVENTION

A large percentage of aircraft accidents are due to birds entering the engine area of the aircraft, and eventually getting entangled therein. Birds die and aircraft engine need to be either cleaned up or replaced. This, on top of the delays in scheduled flights, hotel accommodations and other costs for airline passengers, and the million-dollar compensation for loss of life and property.

Thru the decades, various sounds have been developed aimed at causing birds not to go near the aircraft engine, but with not much success.

The reason by birds are attracted to the whirr of a running aircraft engine, at whatever altitude, is that the air waves generated by the engine, make easy enjoyable gliding for them. The birds do not have to exert any flying effort, they will just glide or float, in the air waves or wind vibrations coming from the running engine. Hence, the attraction to running engine aircraft.

There are natural phenomena, i.e. rain, thunder, etc., that birds avoid or flee from following their survival instinct, and is not unpleasant for people to hear from land, ground.

The sound produced in this device approximates the sound of the above-mentioned natural phenomena, in terms of frequency, velocity, and volume such that even within a five hundred meter

radius birds instinctively recognize, resulting in their fleeing away from the aircraft's running engine.

In our preliminary view, the introduction of the term "shofar" by amendment is problematic. The skilled person, in our preliminary view, would generally understand the term "shofar" in the manner discussed above under indefiniteness (i.e., a horn blown like a trumpet, which is made from a ram's horn and is used during Jewish religious observances) and therefore would not have considered the device set out in the originally filed description to be similar to the type of horn that is generally implied by the term "shofar". The originally filed description describes the device as one that is intended to approximate the sound of natural sounds such as rain, tremors, thunder, etc., which would repel birds away from running aircraft engines. We therefore are of the preliminary view that the introduction of the term "shofar" in the amended description and claims represents the introduction of impermissible new matter, contrary to section 38.2 of the *Patent Act*.

In line with the original description of the device as one that is intended to approximate natural sounds that repel birds away from running air engines, we are also of the preliminary view that the specification in the amended description that the sounds are for "aircraft and aviation purposes system" is impermissible new matter. The use of such language encompasses the use of the sounds for many purposes beyond that of repelling birds, which was the focus of the original description. In our preliminary view, the person skilled in the art would not have considered the original description to have suggested broader uses for the device.

In our preliminary view, the feature of the device being situated on board an aircraft is to be reasonably inferred from the original description, since it discusses the idea of repelling birds away from the running engine(s) of an aircraft, whatever the altitude.

However, the feature of "a pre-recorded-storing device installed at the tail end of the aircraft" was not, in our preliminary view, to be reasonably inferred from the original description. The original description provided no detail as to the configuration or specific location on an aircraft of the device. The skilled person could not have

inferred a particular configuration or specific location based on the general idea conveyed by the original description.

### *The claims on file*

[40] At pages 11-12 of the PR letter, we identified the features of the claims on file that, in our preliminary view, represented the addition of impermissible new matter, also setting out our associated reasons:

In regard to the claims on file, as was the case for the amended description, the introduction of the term “shofar” represents the addition of impermissible new matter.

In regard to the sounds being for “aircraft and aviation purposes system”, as was the case for the amended description, the use of such language in the claims on file represents the addition of impermissible new matter.

Further, the following features of the claims on file also represent impermissible new matter:

- “[a] pre-recorded computer-storing” (claim 2 on file);
- that the device is installed at the tail end of the aircraft (claim 3 on file);
- that there is an electronic transmission (claim 3 on file); and
- the specific characteristics of the sound wave, namely that it is a three-dimensional, circularly travelling sound wave within a realistic radius North, East, South, and West of the aircraft, with a velocity of three knots per minute (claim 3 on file).

As to the last-noted feature, there was no suggestion in the original description that the sound wave was omni-directional, as specified in claim 3. Further, if it had not comprised new matter and therefore had been allowed to be added to the specification, it would have introduced an additional defect into the claims, for the following reasons.

The claimed subject-matter would defy the laws of science in relation to sound wave propagation, and thus lack utility, contravening section 2 of the *Patent Act*. Specifically, if the velocity feature was indeed intended to refer to velocity, it was part

of the relevant CGK, as set out under Purposive construction, that a sound wave travels through the air at approximately 343 meters per second, rather than three knots (1.5 meters per second).

In view of the above, we have reproduced below the claims on file, indicating by strikeouts which portions of the claims are directed to impermissible new matter. As was the case for the description, the removal of the struck out language will not itself lead to acceptable claims. The problematic language will need to be replaced with language in line with or reasonably inferable from the originally filed description. The remaining features we take to be the essential elements of the claims on file.

1. ~~A Shofar with different noises, sounds for aircraft and aviation purposes system.~~

2. ~~The Shofar with different noises, sounds for aircraft and aviation purposes system:~~

~~A pre-recorded, computer storing to produce natural unpleasant for birds only, permanent sounds, whether on air or on ground.~~

3. ~~The Shofar with different noises, sounds for aircraft and aviation purposes system:~~

~~A device installed at the tail end of the aircraft, electronically transmitted natural sounds unpleasant only for birds which cause birds to avoid going close to the aircraft, is a three-dimensional, circularly travelling sound wave within a realistic radius North, East, South and West of the aircraft, with a velocity of three knots per minute.~~

### *The drawings*

[41] At page 13 of the PR letter, we explained that it was our preliminary view that with the exception of Figure 2, all the other Figures of the instant application contain impermissible new matter.

### *Conclusions in respect of new matter*

- [42] At the hearing the Panel discussed with the Applicant the limitations in this case of adding material to the application, given the minimal content of the originally filed application. We also discussed how the content of the abstract cannot be used as a source of material to be added to the specification and/or drawings.
- [43] However, the Applicant did not contest any of our preliminary views as to the presence of impermissible new matter in the application, either in oral submissions at the hearing or in the post-hearing submissions, instead attempting to overcome such defects in the post-hearing submissions.
- [44] In light of the above, we conclude that the description, claims and drawings on file contain impermissible new matter, as detailed above, contrary to section 38.2 of the *Patent Act*.

## **NOVELTY**

### **Legal Principles**

- [45] 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;

[remainder of subsection omitted]

- [46] 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 practiced by a skilled person (*Apotex Inc v Sanofi–Synthelabo Canada Inc*, 2008 SCC 61 [*Sanofi*] at paras 24–29, 49).
- [47] A patent confers on the holder of the patent exclusive rights for the invention patented. It would be unfair to confer on a patentee those rights if they could not be granted without injuring the rights previously acquired by third parties, whether those rights are derived from the public domain or from private property in the form of an existing patent. In either case it cannot be said that an alleged invention was novel if it already existed and was known. Novelty is therefore one of the essential conditions of a patentable invention.

## Analysis

- [48] In the PR letter at pages 13-14, we set out our reasons for the preliminary view that the claims on file lacked novelty in view of the cited prior art (D1, discussed below, was previously identified in the discussion of the relevant CGK):

The claim date for the present application is the filing date (June 11, 2012).

In the FA the examiner cited prior art document D1 for lack of novelty of the claims.

D1 discloses a bird collision avoidance system for aircraft and aviation purposes.

In almost all cases, a novelty analysis (and an obviousness analysis, as conducted below) involves an assessment of the claims as presented. However, in this case, as we have determined that the claims include new matter that is proscribed by section 38.2 of the *Patent Act*, we must address the remaining questions of novelty

and obviousness by considering the claims on file at the time of the FA as they would appear with the new matter removed.

Accordingly, absent the new matter:

- claim 1 would not use the term “shofar” or refer to the sounds as being for “aircraft and aviation purposes system.” In that respect, we assume for the purposes of this analysis that claim 1 without such language would refer to a sound-producing device for repelling birds;
- claim 2 includes the features of claim 1, plus the further feature of the sounds being natural sounds, unpleasant for birds only, and the still further feature of the system being operable whether the aircraft is in the air or on the ground; and
- claim 3 includes the features of claim 1, plus the further feature of the sounds being natural sounds, unpleasant for birds only, the sounds acting to cause birds to avoid going close to the aircraft.

All of these features are taught and enabled by D1, which discloses a bird collision avoidance system for aircraft and aviation purposes, using sounds generated to simulate bird-repelling sounds (including natural sounds) such as **distress calls**, alarm calls, **predator calls** and other such sounds for repelling birds known from the prior art (see page 8, lines 29-31). Further, the system, as it is installed on the aircraft, is operable in the air or on the ground.

Therefore, claims 1 to 3, absent the impermissible new matter, lack novelty in view of D1, and do not comply with paragraph 28.2(1)(b) of the *Patent Act*.

[49] The Applicant did not contest the above preliminary view either in the oral submissions or in the post-hearing submissions.

[50] We conclude that for the reasons set out above, claims 1-3 on file lack novelty and are non-compliant with paragraph 28.2(1)(b) of the *Patent Act*.

## OBVIOUSNESS

### Legal Principles

- [51] Section 28.3 of the *Patent Act* sets out the legislative requirement that claimed subject-matter 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.

- [52] In *Sanofi*, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to follow the following four-step approach, which we use below in our analysis:

- (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?

- [53] Non-obviousness is a separate patentability requirement from novelty. Even if a claimed invention is new in the sense that such an invention was not made before, and thus the claimed invention displays novelty in view of the prior state of the art, this does not avoid the further requirement that this novelty must have been the result of inventive ingenuity in going from the state of the art to arrive at the claimed invention. An invention that required inventive ingenuity to produce, separate from conceiving of it, is also referred to as non-obvious.
- [54] The legal test for assessing obviousness requires an analysis from the point of view of the person skilled in the art, possessing the common general knowledge in the relevant field and presented with the relevant prior art. If such a person would have arrived directly and without difficulty at the claimed invention, then the invention is considered to have been obvious. Alternatively, if the skilled person would not have arrived directly and without difficulty at the claimed invention, then it is considered that inventive ingenuity was involved, and the invention is non-obvious.

## **Analysis**

- [55] In the PR letter at pages 15-16, we set out the reasons for our preliminary view that claims 1-3 on file would have been obvious to the skilled person as of the claim date:

- (1)(b) Identify the relevant common general knowledge of that person

We also identified the relevant common general knowledge of the skilled person under Purposive Construction and consider the same points to apply in the obviousness analysis.

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

We have already construed the claims above, minus the new matter, taking the remaining elements of the claims to be essential. We take the construed claims to represent the individual inventive concepts of them.

(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 determined in our novelty analysis above, there are no differences between the claimed subject-matter and the state of the art as represented by D1.

(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?

As there are no differences identified in step (3), there can be no inventive ingenuity. Accordingly, claims 1 to 3, absent the new matter, would have been obvious to the skilled person on the claim date, and do not comply with paragraph 28.3(b) of the *Patent Act*.

[56] The Applicant did not contest the above preliminary view either at the oral hearing or in the post-hearing submissions.

[57] We conclude for the reasons set out in the PR letter and reproduced above that claims 1-3 on file would have been obvious to the skilled person on the claim date and are therefore do not comply with paragraph 28.3(b) of the *Patent Act*.

## **TITLE DEFECT IN THE DESCRIPTION**

### **Legal Principles**

[58] Paragraph 56(1)(a) of the *Patent Rules* specifies that:

56 (1) The description must include the following information, set out in the following manner and order:

- (a) the title of the invention must be stated in a short and precise manner and must not include a trademark, coined word or personal name;

[rest of subsection omitted]

## Analysis

- [59] As noted in the PR letter at page 17, the term “shofar” was identified as a trademarked term and therefore its use in the title of the instant application conflicts with paragraph 56(1)(a):

Since, as discussed earlier, the term “shofar” is a trademarked term, the use of such a term in the title is non-compliant with paragraph 56(1)(a) of the *Patent Rules* and must be removed.

- [60] The Applicant did not contest the above either at the hearing or in the post-hearing submissions, instead attempting to overcome the issue by proposing an amendment to the title.

- [61] In light of the above, it is our view that the title of the instant application is non-compliant with paragraph 56(1)(a) of the *Patent Rules*.

## ADDITIONAL DISCUSSION OF THE FEATURES DETERMINED TO BE IMPERMISSIBLE NEW MATTER

- [62] In the PR letter at pages 17-19, we set out a supplemental preliminary analysis to consider the novelty and obviousness of claims 1-3 even if they were not considered to contain impermissible new matter. We were of the preliminary view that even in such a situation the claims would still lack novelty and/or would have been obvious:

Claim 1 was determined to include improper new matter in respect of the use of the term “Shofar”, as well as specifying that the sounds are for “aircraft and aviation purposes system.” If we assume for the purposes of this hypothetical discussion that the claim meant to refer to some type of aircraft sounding and warning device for repelling birds (which correlates with the subject-matter of the originally filed description, as well as the subject-matter relating to the Applicant’s own registered trademark), then **claim 1 on file would still lack novelty in view of prior art document D1**. D1, as set out under the assessment of novelty above, discloses a bird collision avoidance system for aircraft and aviation purposes, which generates natural sounds to repel birds. **With no differences between claim 1 on file and D1, the claim would have been obvious to the skilled person as well.** [Emphasis in original]

**Claim 2, if assessed as including the additional new matter of a pre-recorded, computer-storing device, still would have been obvious to the person skilled in the art for the following reasons.** [Emphasis in original]

As discussed earlier, D1 discloses a bird collision avoidance system for aircraft and aviation purposes, using sounds generated to simulate bird-repelling sounds (including natural sounds) such as distress calls, alarm calls, predator calls and other such sounds for repelling birds known from the prior art. D1 also discloses the use of a sound emitter to generate such sounds and at page 20, lines 12-15 discloses the use of piezoelectric crystals and the aircraft structure as a loudspeaker sounding board or compressed air from an engine compressor to generate the sounds. D1 does not discuss the use of pre-recorded sounds stored on a computer as the source for the sounds generated.

During earlier prosecution between the Applicant and the Examiner, other documents were cited as representative of the prior art, including D2, which is set out below. The other, document D5, was retrieved by the Panel during the review of the instant application.

D2 US 7,173,534 B1	Markham et al.	February 6, 2007
D5 US 6,285,630 B1	Jan	September 4, 2001

D2 discloses a computer based bird control system that, as part of its system, includes the playing of bird predator or other deterrent sounds that are reproduced from audio files stored on a computer (D2 at col. 4, lines 24-31, col. 5, lines 55-60).

D5 likewise discloses a bird-expelling device producing the sound of a fierce bird such as a hawk, eagle or falcon. The generator for producing these sounds includes an audio-data storage device for storing audio data of the fierce bird sound and outputting a signal representative of the sound, which, through an amplifier and speaker, generates the fierce bird sound (D5 at col. 1, lines 54-65).

In our preliminary view, though D1 does not disclose the use of pre-recorded computer stored sounds to produce the natural sounds that would repel birds as set out in claim 2 on file, such an embodiment would have been obvious to the skilled person in view of D2 or D5 and the relevant CGK. The CGK set out above includes knowledge of systems used to repel birds, including speakers and control systems. In our preliminary view, playback of sounds from pre-recorded storage would have been a well-known method of reproducing such sounds by means of speakers, as illustrated by the examples disclosed in D2 and D5, whether the pre-recorded sounds were stored on a computer or some other storage means. As such, the subject-matter of claim 2 on file would have represented a well-known option available to the skilled person, the effects of which also would have been well-known, making claim 2 obvious.

Finally, we consider claim 3 on file, if assessed as including the following additional new matter:

- the sound-producing device installed at the tail end of the aircraft (D1 at page 10, line 23; page 17, line 24-25; page 21, lines 12-14);
- the produced sound travelling omni-directionally ("a three-dimensional, circularly travelling sound wave within a realistic radius North, East, South and West of the aircraft"); and
- the produced sound travelling at a velocity of three knots per minute.

The first feature is taught by D1, as pinpointed above.

The third feature, as discussed above, would not be meaningful to the skilled person and based on their common general knowledge would result in the claim being indefinite and lacking utility. The skilled person would most likely consider this feature to be the result of an error in drafting the claim, and it would be disregarded in favour of the well-known speed of sound travelling through air.

As for the second feature, D1 discloses known disadvantages of ground-based systems well known in the prior art. One disadvantage of such systems employing omni-directional sounds is that all birds in the area, not just those which pose a threat to running aircraft engines, are exposed to the sounds, and thus will become habituated to them, with the result that the system will become less effective over time (D1 at page 4, lines 7-16; page 5, lines 21-24).

The difference between claim 3, hypothetically including the new matter, and D1, is that D1 sought to avoid the known issues with ground-based noise emitters, namely their application to surrounding birds in general through the use of omni-directional noise emitters and lack of focus on the immediate area surrounding the aircraft, including its flight path. While D1 contemplates embodiments where the noise emitting systems are moved onboard the aircraft and use a focused sound system directed in the aircraft's flight path, it also contemplates embodiments where a non-focused sound emitting system is simply moved on board the aircraft (e.g., claim 1 of D1 which is not limited to a sound emitter using a focused beam pattern, as well as the first four paragraphs in the Summary of Invention section, which are directed to embodiments not limited to a focused beam pattern). In this way, although D1 identifies issues with well-known omni-directional noise emitters used on the ground, it does not teach away from the use of such omni-directional systems in general and in our preliminary view, discloses, enables and claims such embodiments.

In view of the above, **it is our preliminary view that the subject-matter of claim 3, absent the “shofar” language and the specific sound wave velocity, but including the other impermissible new matter, lacks novelty in view of D1.** Further, since claim 3 would lack novelty, there being no differences with respect to D1, **it would also have been obvious in view of D1.** [Emphasis in original]

- [63] As with the other issues, the Applicant made no submissions in respect of the above either at the oral hearing or in the post-hearing submissions. We therefore conclude that even if claims 1-3 on file were not considered to contain impermissible new matter, claims 1 and 3 would still lack novelty and would have been obvious, while claim 2 would have been obvious.

### **PROPOSED AMENDMENTS IN POST-HEARING SUBMISSIONS**

- [64] With the post-hearing submissions, the Applicant proposed amendments to all parts of the instant application. We address each section in turn below.

#### **Title**

- [65] The current title of the application was problematic due to the inclusion of the trademarked term “shofar”. In the post-hearing submissions the Applicant proposed that the title be modified to be “DIFFERENT NOISES, SOUNDS FOR BIRD STRIKE AVIATION.”
- [66] While the problematic trademark has been removed, given that, per paragraph 56(1)(a) of the *Patent Rules*, the title must be precise, it is not reflective of the content of the specification, which relates to a device that is to repel birds from aircraft. We are therefore of the view that the proposed title would not be compliant with paragraph 56(1)(a) of the *Patent Rules*.

#### **Abstract**

- [67] The proposed abstract submitted with the post-hearing submissions still contains some of the material identified as being impermissible new matter in the PR letter e.g., the shape of the sounds being produced and the fact that the noise making device is located at the tail end of the aircraft. However, as noted in the PR letter, the abstract does not form part of the specification and cannot be taken into

account for the purpose of interpreting the scope of protection or for the purpose of serving as a basis for adding matter to the specification or drawings. As such, we make no findings here as to its proposed modification.

## **Description**

- [68] The proposed description submitted with the post-hearing submissions would address the impermissible new matter defects set out in the PR letter. However, as noted above, an issue with the specific language of the title, included at the top of the page containing the description, would be present.

## **Claims**

- [69] The proposed amendments to the claims on file would still contain defects contrary to the *Patent Act*, as set out below.

### *Indefiniteness/lack of clarity*

- [70] The proposed claims would overcome the defects identified in the PR letter under subsection 27(4) of the *Patent Act*.

### *New matter*

- [71] Proposed claim 1 still contains the feature that the device is “located at the tail end of the aircraft”, which was considered to be impermissible new matter in the PR letter at page 12. The language representing the configuration of the sound wave, namely that it travels “North East, South and West of the aircraft” is also present in proposed claim 2. We further note that proposed claim 1 includes a feature that the device “automatically activates”, a feature that was not, in our view, present in, or reasonably inferred from, the originally filed application of June 11, 2012.



[72] Shown below are the proposed claims submitted with the post-hearing submissions indicating the features that would need to be removed because they are considered to be impermissible new matter:

1. Claim 1. the aircraft sounding and warning device system with different noises, sounds for Bird Strike Aviation, ~~located at the tail end of the aircraft.~~
2. Claim 2. The system produces different noises and sounds ~~automatically-activates~~ whether on air or on ground within a realistic radius, ~~North East, South and West of the aircraft~~ velocity perceived by birds.
3. Claim 3. The natural sounds and noises are unpleasant only for birds which cause birds to avoid going close to the aircraft.
4. Claim 4. The sounds and warning device includes natural sounds that would typically repel birds, such as rain, tremors, thunder.

### *Lack of novelty*

[73] Without the new matter, claim 1 is directed to an aircraft sounding and warning device for producing noise that repels birds from aircraft. As set out above under the novelty assessment of the claims on file, prior art document D1 already disclosed such features.

[74] Without the new matter, claim 2 is directed to a system for producing different noises and sounds, whether in the air or on the ground, that can be perceived by birds. As also discussed above under the novelty assessment of the claims on file, all such features are disclosed by prior art document D1.

[75] Claim 3 is directed to natural sounds and noises that are unpleasant for birds and that repel them from aircraft. Again, as discussed in relation to the claims on file, all such features are disclosed by prior art document D1.

- [76] Claim 4 is directed to a sound and warning device that produces natural sounds that repel birds, such as rain, tremors and thunder. Since the particular sounds are only stated as examples of the natural sounds broadly claimed and natural sounds for repelling birds are disclosed in D1, we are of the view that the subject-matter of proposed claim 4 is also disclosed by prior art document D1.

### *Obviousness*

- [77] Since the subject-matter of the proposed claims lacks novelty in view of prior art document D1, there being therefore no differences between the state of the art represented by D1 and the subject-matter of the proposed claims, the subject-matter of the proposed claims would have been obvious.

### *Consideration of the effect on novelty/obviousness if the new matter were permissible*

- [78] For completeness, we consider whether the presence of the features in the proposed claims that we consider to be impermissible new matter would affect the outcome in relation to the assessment of novelty and obviousness.
- [79] With respect to claim 1, a bird repelling noise producing device located at the tail end of an aircraft was already disclosed in D1, as discussed in the PR letter at page 18 and reproduced above. Therefore, even with the new matter, claim 1 would lack novelty and would have been obvious in view of D1.
- [80] Proposed claim 2 specifies that the noise producing system “automatically activates” and that the noises and sounds are transmitted in all directions (North, East, South and West). As set out in the PR letter at page 18 and set out above, D1 discloses the use of omni-directional systems, so this additional feature would not add novelty to claim 2. With respect to automatic activation of the noise producing system, D1 discloses at page 14, line 31 to page 15, line 8 that a bird

detection unit activates the bird repelling unit, thereby disclosing automatic activation of the noise producing device. In light of the above, proposed claim 2 would lack novelty in view of prior art document D1, and with no differences between D1 and the subject-matter of the claim, would also have been obvious.

- [81] Proposed claims 3 and 4 were not considered to include impermissible new matter and so the novelty and obviousness assessments of these claims set out above would be unaffected.

## **Drawings**

- [82] In the post-hearing submissions, the Applicant proposed removing all figures with the exception of Figure 2. Consistent with our preliminary view in the PR letter that only Figure 2 did not contain impermissible new matter, this proposal would overcome the new matter defect in respect of the drawings.

## **Conclusions for post-hearing proposed amendments**

- [83] In light of the above, since the proposed amendments submitted with the post-hearing submissions would not overcome all of the outstanding defects, they are not considered a “necessary” amendment for compliance with the *Patent Act* and Patent Rules, as required by subsection 86(11) of the *Patent Rules*.

## **OVERALL CONCLUSIONS**

- [84] We conclude that:

- Claims 1-3 on file are indefinite and therefore do not comply with subsection 27(4) of the *Patent Act* ;
- The description, claims and drawings on file contain impermissible new matter, contrary to section 38.2 of the *Patent Act*.

- Claims 1-3 on file, absent the impermissible new matter, lack novelty and are therefore non-compliant with paragraph 28.2(1)(b) of the *Patent Act*;
- Claims 1-3 on file, absent the impermissible new matter, would have been obvious to the person skilled in the art and are therefore non-complaint with paragraph 28.3(b) of the *Patent Act*; and
- The title of the instant application as set out in the description is non-compliant with paragraph 56(1)(a) of the *Patent Rules*.

[85] We also conclude that even if the claims on file were not considered to contain impermissible new matter, their subject-matter would still lack novelty and/or would have been obvious.

[86] Further, since the proposed amendments submitted by the Applicant with the post-hearing submissions would not overcome all of the outstanding defects present in the instant application, they are not considered a “necessary” amendment for compliance with the *Patent Act* and *Patent Rules*, as required by subsection 86(11) of the *Patent Rules*.

## **RECOMMENDATION OF THE BOARD**

[87] In view of the above, the undersigned recommend that the application be refused on the grounds that:

- Claims 1-3 on file are indefinite and therefore do not comply with subsection 27(4) of the *Patent Act* ;
- The description, claims and drawings on file contain impermissible new matter, contrary to section 38.2 of the *Patent Act*.
- Claims 1-3 on file, absent the impermissible new matter, lack novelty and are therefore non-compliant with paragraph 28.2(1)(b) of the *Patent Act*;

- Claims 1-3 on file, absent the impermissible new matter, would have been obvious to the person skilled in the art and are therefore non-complaint with paragraph 28.3(b) of the *Patent Act*; and
- The title of the instant application as set out in the description is non-compliant with paragraph 56(1)(a) of the *Patent Rules*.

Stephen MacNeil  
Member

Zoran Novakovic  
Member

Lewis Robart  
Member

**DECISION OF THE COMMISSIONER**

[88] I concur with the conclusions and recommendation of the Board that the application be refused on the grounds that:

- Claims 1-3 on file are indefinite and therefore do not comply with subsection 27(4) of the *Patent Act* ;
- The description, claims and drawings on file contain impermissible new matter, contrary to section 38.2 of the *Patent Act*.
- Claims 1-3 on file, absent the impermissible new matter, lack novelty and are therefore non-compliant with paragraph 28.2(1)(b) of the *Patent Act*;
- Claims 1-3 on file, absent the impermissible new matter, would have been obvious to the person skilled in the art and are therefore non-complaint with paragraph 28.3(b) of the *Patent Act*; and
- The title of the instant application as set out in the description is non-compliant with paragraph 56(1)(a) of the *Patent Rules*.

[89] 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 17<sup>th</sup> day of December, 2024.