

Commissioner's Decision # 1324

Décision de la Commissaire # 1324

TOPIC: 000

SUJET: 000

Application No. : 2,050,365

Demande n : 2,050,365

COMMISSIONER'S DECISION SUMMARY

CD 1324

Re Patent Application No 2,050,365 to Symtron Systems Inc

The application relates to a device and method for use in training firefighters in the extinguishment of a fuel spill fire.

Obviousness

All of the claims in the application were considered by the Examiner to be obvious in view of several cited prior art references.

Held: The Commissioner found that some of the claims were obvious while other claims were not obvious.

The Commissioner advised the Applicant to delete the claims considered obvious from the application.

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,050,365, having been rejected under subsection 30(3) of the *Patent Rules*, has subsequently been reviewed in accordance with subsection 30(6) of the Rules by the Patent Appeal Board and by the Commissioner of Patents. The findings of the Board and the decision of the Commissioner are as follows:

Agent for the Applicant

MacRae & Co.

Suite 600

222 Somerset Street West

Ottawa, Ontario

K2P 2G3

INTRODUCTION

[1] This decision deals with a review by the Commissioner of Patents of the Examiner's rejection in a Final Action of patent application no. 2,050,365 entitled "Fire Fighter Trainer". The Applicant is Symtron Systems, Inc. The inventors are James J. Ernst, Steven Williamson, William Rogers and Dominick J. Musto. The application relates to a device and method for use in training firefighters in the extinguishment of a fuel spill fire.

BACKGROUND

[2] The subject application was filed on August 30, 1991. It is based on a United States priority application, no. 605,527, which was filed October 29, 1990.

[3] At the time of the Final Action, the application contained 10 claims. In the Final Action, the Examiner identified claims 1-10 as failing to comply with section 28.3 of the *Patent Act* for comprising subject matter that would have been obvious on the claim date to a person skilled in the art.

[4] In a response to the Final Action, the Applicant replaced the claims on file with amended claims 1-20, and presented arguments for the non-obviousness of the amended claims.

[5] In a Summary of Reasons submitted to the Patent Appeal Board, the Examiner indicated that the defects identified in the Final Action were applicable to the new claim set. Accordingly, amended claims 1-20 were considered by the Examiner to be obvious, and the rejection was consequently maintained.

[6] A hearing was held, at which the Applicant was represented by Mr. Kevin O'Brien of MacRae & Co.

PROCEDURAL MATTERS

- [7] Before proceeding to a consideration of the grounds for rejection, there is one procedural matter to be considered. In the response to the Final Action, the Applicant asserted that the Final Action was improper on the basis that it added two new alternative rationales (each involving a different combination of cited references) for determining that the claims were obvious, supplementing the two alternative rationales that had been expressed in the earlier Office actions.
- [8] We note that no new references have been cited for the first time in the Final Action, and that all three cited references, at least individually, have been previously considered by the Applicant. Further, the Applicant's arguments with respect to the alternative combinations of references, in both the response to the Final Action as well as in oral submissions made at the hearing, satisfy us that the Applicant understood, and was able to adequately address, the grounds raised in the Final Action and maintained in the Summary of Reasons.
- [9] In any case, upon consideration of the application and the cited prior art, we find it unnecessary to address the question of obviousness in terms of four alternative rationales. We have reviewed each of the rationales, and have chosen to base our analysis on what we consider to be the strongest case.

CLAIMS IN DISPUTE: 1-20

- [10] The claims under consideration include four independent claims: claims 1 and 11 are directed to a device, and claims 8 and 18 are method claims. Device claims 1 and 11 appear

as follows:

1. A fire fighter trainer for simulating the combustion of a fuel spill on the ground comprising:

a pit structure;

a burn area defined within said pit structure;

a combustible gas or liquefied gas distribution and burner system for sustaining the burning of the gas in the burn area;

a material to provide for the simulation of the fuel spill fire in an area of combustion of the gas in the pit structure;

a burner control system connected to the gas distribution and burner system for controlling gas flow to the burner system;

a central operator control panel connected to the burner control system for operating the burner control system;

a computer system connected to the central operator control panel for controlling the gas distribution and burner system; and

an extinguishing agent detecting system for indicating to the computer system the application of an extinguishing agent to at least part of the area of combustion to thereby enable the control of the burning gas in that area.

11. A fire fighter trainer for simulating the combustion of a fuel spill on the ground comprising:

a pit structure;

a burn area defined within said pit structure;

a material within said pit structure for providing a burn surface for simulating the fuel spill fire in the burn area;

a combustible gas or liquefied gas distribution and burner system for sustaining the burning of the gas on the burn surface of the material in the burn area;

a burner control system connected to the gas distribution and burner system for controlling gas flow to the burner system;

a central operator control panel connected to the burner control system for operating the burner control system for producing a flame pattern of burning gas on the burn surface and for controlling

the growth, spread and response of the fire flame pattern during simulation;

a computer system connected to the central operator control panel for controlling the gas distribution and burner system; and

an extinguishing agent detecting system for indicating to the computer system the application of an extinguishing agent to at least part of the area to thereby enable the control of the burning gas in that area.

[11] Claims 8 and 18 define methods to be carried out using devices generally similar to those defined by claims 1 and 11, respectively. These method claims appear as follows:

8. A method of providing a fuel spill firefighter trainer for training fire fighters, including the steps of:

forming a trainer comprising a burn area disposed in a pit structure throughout which there is disposed a combustible gas or liquefied gas distribution system and burner system having a pilot system and including a burner control valve system connected to the burner system for controlling the gas flow thereto; a material to provide for the simulation of the fuel spill fire in an area of combustion of the gas in the pit structure; a central operator control panel for operating the burner control system; a computer system connected to the central operator control panel for controlling the gas distribution and burner system; and an extinguishing agent detecting system for indicating to the computer system the application of an extinguishing agent to at least part of the area of combustion to thereby enable the control of the burning gas in that area;

initiating operation of the central operator control panel;

preparing operating parameters and a training scenario having a fire growth rate and a fire spread rate and an extinguishment difficulty level;

sequentially opening valves in the burner control valve system; and

directing fire fighters in the extinguishment of the fire.

18. A method of providing a fuel spill firefighter trainer for training fire fighters, including the steps of:

forming a trainer comprising a burn area disposed in a pit structure having therein a material for providing a burn surface for simulating the fuel spill fire in the burn area; a combustible gas or liquefied gas distribution system and burner system for sustaining the burning of the gas on the burn surface of the material in the burn area; a pilot light system and a burner control valve system connected to the burner system for controlling the gas flow thereto; a central operator control panel connected to the burner control system for operating the burner control system for producing a flame pattern of burning gas on the burn surface and for controlling the growth, spread and response of the fire flame pattern during simulation; a computer system connected to the central operator control panel for controlling the gas distribution and burner system; and an extinguishing agent detecting system for indicating to the computer system the application

of an extinguishing agent to at least part of the burn area to thereby enable the control of the burning gas in that area;

initiating operation of the central operator control panel;

preparing operating parameters and a training scenario having a fire growth rate and a fire spread rate and an extinguishment difficulty level;

sequentially opening valves in the burner control valve system; and

directing fire fighters in the extinguishment of the fire.

Claim construction

[12] For the most part there is no dispute as to the interpretation of the terms of the claims. However, in reviewing the arguments of the Examiner and the Applicant, we consider that there are a few terms that require some consideration. In interpreting these terms, we are mindful of the following statement from *Metalliflex Ltd v Rodi & Wienenberger AG*, [1961] SCR 117 at 122, cited in *Whirlpool Corp v Camco Inc*, 2000 SCC 67:

The claims, of course, must be construed with reference to the entire specifications, and the latter may therefore be considered in order to assist in apprehending and construing a claim, but the patentee may not be allowed to expand his monopoly specifically expressed in the claims by

borrowing this or that gloss from other parts of the specifications.

- [13] First, while the descriptive portion of the specification describes a training apparatus for simulating aircraft fuel spill fires on the ground, the claims are not limited to *aircraft* fuel spill fires, but refer more generally to fuel spill fires on the ground.
- [14] Second, each of the above independent claims refers to [emphasis added] Aan extinguishing agent detecting system for indicating to the computer system the application of an extinguishing agent to at least part of the area of combustion to thereby enable the control of the burning gas in that area.@ This would encompass an embodiment in which control of the burning gas in the whole area of combustion is enabled. The language chosen by the Applicant encompasses an apparatus having a single detector. (It is only in claims 5, 9, 15 and 19 that a plurality of detectors is specified.) And the Acombustible gas or liquefied gas distribution and burner system@ as broadly set forth in these independent claims encompasses an apparatus having a single burner.
- [15] And finally, there is the feature defined as Aa material to provide for the simulation of the fuel spill fire@ (in claims 1 and 8) and as Aa material for providing a burn surface for simulating the fuel spill fire@ (in claims 11 and 18). The only reference in the description is to ABurn Surface 30", which Ais an appropriate material to provide for an area of combustion of propane fuel, and provide a realistic appearance for training.@ Despite the limited information provided in the specification, we find that the person skilled in the art would understand this to be a surface that appears to represent the surface on which the fuel spill fire takes place. As explicitly recited in claims 1 and 11, and as implied in claims 8 and 18, the fuel spill fire is to be simulated as on the ground.
- [16] Claim 11 is similar in scope to claim 1, except that it further defines the central operator control panel as controlling the growth, spread and response of the flame pattern. And

claim 18 is similar to claim 8, except that it includes this same additional feature.

OBVIOUSNESS: THE LAW

[17] Section 28.3 of the *Patent Act* sets out the conditions under which a claim may be found to be obvious:

28.3 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 more than one year before the filing date by the applicant, or by a person who obtained knowledge, directly or indirectly, from the applicant in such a manner that the information became available to the public in Canada or elsewhere; and

(b) information disclosed before the claim date by a person not mentioned in paragraph (a) in such a manner that the information became available to the public in Canada or elsewhere.

[18] In *Sanofi-Synthelabo Canada Inc v Apotex Inc*, 2008 SCC 61 [*Sanofi*], a decision released subsequent to the Final Action in this case, the Court stated that it will be useful in an obviousness inquiry to follow the four-step approach first outlined by Oliver LJ in *Windsurfing International Inc v Tabur Machine (Great Britain) Ltd*, [1985] RPC 59 (CA), and updated by Jacob LJ in *Pozzoli SpA v BDMO SA*, [2007] EWCA Civ 588. This approach reads as follows:

- (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 [the claim];

- (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?

OBVIOUSNESS: ANALYSIS

[19] In following the four-step *Sanofi* framework, it is understood that the exercise should normally be carried out for each claim at issue. We will commence with an analysis of the broadest independent claims in dispute, ie, apparatus claim 1 and method claim 8, and consider the narrower independent claims and the dependent claims subsequently.

(1)(a) The person skilled in the art

[20] In this case, the person skilled in the art would be a technician with experience in the field of firefighter training devices and methods.

(1)(b) The relevant common general knowledge

[21] The common general knowledge of this person would include knowledge of conventional firefighter training devices and methods. This would include knowledge of conventional devices and methods used for training firefighters to combat Class B (flammable or combustible liquids or gases) fires, to which the present invention particularly relates, but also conventional training devices and methods relating to Class A (combustible solids) fires.

(2) The inventive concept of the claims or the construed claims

[22] In this case, as no submissions concerning the inventive concept were made at any stage of the prosecution, we proceed on the basis of the claims as construed.

Claim 1

[23] Claim 1 sets forth a firefighter training apparatus for simulating the combatting of a fuel spill fire on the ground, comprising the combination of:

- § a pit structure having a designated burn area disposed therein;
- § a combustible gas or liquefied gas distribution and burner system for sustaining the burning of the gas in the burn area;
- § a material within the pit structure, the material providing for the simulation of the fuel spill fire in an area of combustion of the gas in the pit structure;
- § a burner control system connected to the gas distribution and burner system;

- § a central operator control panel connected to the burner control system;
- § a computer system connected to the central operator control panel; and
- § an extinguishing agent detecting system for indicating to the computer system the application of an extinguishing agent to at least part of the area of combustion to thereby enable the control of the burning gas in that area.

Claim 8

[24] Claim 8 sets forth a method of using an apparatus to train firefighters, comprising the steps of:

- § providing an apparatus of the type defined by claim 1, which simulates the conditions experienced in combatting an actual fuel spill fire;
- § initiating operation of the central operator control panel;
- § preparing operating parameters and a training scenario having a fire growth rate and a fire spread rate and an extinguishment difficulty level;
- § sequentially opening valves in the burner control valve system; and
- § directing firefighters in the extinguishment of the fire.

(3) Differences between the "state of the art" and the construed claims

[25] In the Final Action and Summary of Reasons, the following references were cited:

Patents

US 4,303,396		issued 1 December
	1981	Swiatosz
US 4,861,270		issued 29 August 1989
		Ernst et al.

Publication

Design Standards for an Aircraft Rescue and Firefighter Training Facility

FAA Advisory Circular 150-5220-17

published 1 April 1988

The Swiatosz patent

[26] Swiatosz discloses a training device that simulates fires that may occur in a machine or engine room, in particular, oil bilge and oil spray fires (types of Class B fires) as well as fires involving combustible solids (Class A fires). The device comprises:

- § a housing, comprising a back wall, side walls and a floor, including a metal floor grate, providing a designated burn area (Fig. 1);
- § a material disposed on top of the grate for simulating a Class A material (col. 2, lines 51-54);
- § a propane gas distribution and burner system, the burner system including a first burner means, mounted beneath the floor, having at least one nozzle for directing a flame up through the floor grate (col. 7, lines 11-14) (and contemplating multiple nozzles connected to respective burner tubes; see col. 3, lines 41-45), and a second burner means, mounted through a wall, having a nozzle for directing a flame horizontally through the wall (col. 7, lines 16-20);
- § a flame spreader on the nozzle of the second burner means to provide for the simulation of an oil bilge fire in the burn area (col. 3, lines 37-41);
- § a burner control system connected to the gas distribution and burner system (col. 6,

lines 29-32);

- § a control unit connected to the burner control system (col. 4, lines 3-11);
- § a programmed computer connected to the control unit for sequencing and interaction, which clocks for recycling and flashback capability, and can be adapted to meet specific applications encountered by firefighters (col. 4, lines 3-7 and col. 6, lines 2-5);
- § an extinguishing agent detecting system mounted beneath the floor grate; wherein the burner control system is responsive to the detection of an extinguishing agent by the detecting system, thereby reducing, according to preselected parameters including the quantity of extinguishing agent deposited over the fire area for a given period of time, the supply of burning gas to the first burner means (col. 7, lines 21-32); and
- § a simulated valve switch responsive to manual activation by a trainee, wherein the burner control system is responsive to the activation of the switch by the trainee turning the simulated valve to the "off" position, whereby the supply of burning gas to the second burner means is controlled (col. 7, lines 27-32).

[27] Swiatosz further discloses a method of using an apparatus to train firefighters, comprising the steps of:

- § providing an apparatus of the type described above, which simulates conditions experienced in combatting oil bilge, oil spray and/or combustible solid fires;
- § initiating operation of the central operator control panel;
- § preparing operating parameters and a training scenario;
- § opening valves in the burner control system;
- § monitoring firefighters in the extinguishment of the fire;
- § interrupting the simulation;
- § providing corrective instruction; and
- § resuming the simulation.

The Ernst patent

[28] Ernst, a patent in the names of the same inventors as those in the present case, describes a training device that simulates fires of various classes, encompassing fires of combustible solids, electrical equipment and chemical items. The device comprises:

- § a plurality of chambers having respective contents including furniture, electrical equipment and/or chemical items, the contents disposed in a designated burn area;
- § a propane gas distribution and burner system connected to the respective chambers, the burner system including a plurality of burner elements;
- § a burner control system connected to the gas distribution and burner system;
- § a control unit connected to the burner control system;
- § a programmed computer connected to the control unit;
- § an extinguishing agent detecting system, including sensors capable of detecting and distinguishing between water, foam, and powder extinguishing agents, whereby the burner control system is responsive to the detection of an appropriate extinguishing agent (eg, water in the case of a furniture fire, dry powder or inert gas in the case of an electrical equipment fire, and foam in the case of a chemical fire) by the extinguishing agent detecting system, thereby enabling the control of the burning gas in the area of the fire;

[29] Ernst also teaches a method of using an apparatus to train firefighters, comprising the steps of:

- § providing an apparatus of the type described above, which simulates the conditions experienced in combatting fires involving furniture, electrical equipment and chemical items;
- § preparing operating parameters and a training scenario;
- § opening valves in the burner control valve system; and

§ monitoring firefighters in the extinguishment of the fire.

FAA Circular >17

- [30] FAA Circular >17 describes an apparatus for use in training firefighters in the extinguishment of a crashed aircraft fuel spill fire. It describes an apparatus and method in which real aviation fuel is burned, the apparatus comprising a reservoir containing water and crushed stones, on the surface of which the liquid aviation fuel is distributed and ignited so as to resemble a fuel spill fire on the ground. The floor of the reservoir is sloped towards drains so that after the training exercise is completed any unburned fuel can be drained away with the water to a fuel/water separator, so that the fuel may be collected for further use. The apparatus includes a control centre from where an instructor can monitor and control the training exercise, directing firefighters in the extinguishment of the fire.

Summary of the state of the art

- [31] The state of the art thus included firefighter trainers using actual fuel fires, including fuel spill fires on the ground, and trainers simulating fuel fires, the trainers including housings having designated burn areas, materials in the burn areas for simulating burn surfaces, propane distribution and burner systems, burner control systems, control units, computer systems, and extinguishing agent detection systems. Simulated trainers had been designed for training to fight Class A, B and C fires, but had not been used for training to fight fuel spill fires on the ground. Training methods included following a predetermined procedure and following direction provided by an instructor during the exercise.

Differences between the state of the art and ...

... *Claim 1*

[32] The differences between the state of the art and the instant claims can be seen most clearly by comparing the claims to the Swiatosz disclosure.

[33] The differences between Swiatosz and claim 1 are that the claimed invention includes a burn surface contained within a pit structure, composed of a material to provide for the simulation of a fuel spill fire on the ground. In comparison, Swiatosz includes the use of a metal floor grate disposed at the top of a pit structure, upon which may be disposed a material for simulating a class A material fire. Neither the grate itself nor the materials specified in Swiatosz as being placed atop the grate provides the appearance of a fuel spill fire on the ground.

... *Claim 8*

[34] The differences between Swiatosz and claim 8 are: the claimed method includes providing a training apparatus that simulates a fuel spill fire on the ground, whereas Swiatosz teaches simulating fires that may occur in a machine or engine room; the claimed method includes operating parameters and a training scenario having a fire growth rate and a fire spread rate and an extinguishment difficulty level, whereas the trainer taught by Swiatosz did not explicitly recite these parameters; and the claimed method provides a trainer distinguishing over Swiatosz by the features noted in the preceding paragraph in relation to claim 1.

(4) Do the differences constitute steps that would have been obvious?

Claim 1

[35] We note that the state of the art includes training apparatuses and methods for simulating oil bilge and oil spray fires, and fires involving combustible solids, whereas the instant invention relates to simulating a different condition, namely, a fuel spill fire on the ground. However, given the problems with prior art training apparatuses for fuel spill fires, as described on page 1 of the description, namely: (1) air pollution caused by burning actual

fuel; (2) ground pollution caused by the runoff of extinguishing agents and unburned fuel; (3) the difficulty of grading the performance of the firefighter trainees; and (4) the inability to rapidly shut down the trainer if an actual emergency situation occurs during training, the person skilled in the art would have been motivated to look at ways similar problems had been addressed in firefighter trainers designed for other types of fires, particularly class B fires. A reasonable and diligent search of the prior art would have revealed the Swiatosz patent as a promising reference.

[36] The embodiment disclosed by Swiatosz of multiple burners disposed beneath a grate would have provided a simulation functionally resembling a fuel spill fire on the ground. While neither the grate itself nor the materials particularly specified by Swiatosz as being placed atop the grate would have provided the aesthetic appearance of a fuel spill fire on the ground, the skilled person, looking to provide a surface aesthetically appearing to represent a ground surface on which a fuel spill occurred, would have known from Swiatosz to simulate a particular type of fire by placing on the grate a surface having the appropriate appearance, ie, something that looked like wood, cloth, paper, plastic (Swiatosz, col 2, lines 52-55) or potentially the ground surface on which a fuel is spilled. He would have been aware that various materials placed atop the grate would need to provide such a result without taking away from the functionality of the simulator, and he would have chosen appropriately.

[37] As we noted earlier with respect to the interpretation of the claims, neither the claims nor the description provide any specific details as to the composition or characteristics of the material required to provide for the simulation of the fuel spill fire on the ground. The material was interpreted to be a surface that appears to represent the ground surface on which the fuel spill fire takes place. This would include using a grate.

[38] This view is consistent with statements made by the Applicant during prosecution of the application, in which he suggested that a grate would be a suitable material. Although this

is extrinsic evidence, outside of the specification, and therefore did not change our interpretation of the term, it does confirm our view on the scope of possible materials. In the Applicants's July 29, 2002 response to an Examiners' report, at p. 6, he stated [emphasis added]:

... the nature of the material would be familiar to those skilled in the art since they would be aware of appropriate materials given the "well-known use of propane during fire fighting training". The description indicates that the flame should resemble an actual jet fuel fire as much as possible. As is evident from prior art patent to Swiatosz or Applicant's U.S. Patent No. 4,983,124 referenced in the last paragraph of the description, this can be done, for example, by utilizing a grating. It can also be achieved using a layer or bed of gravel (which is the usual surface upon which jet fuel spill fire tests are conducted). By providing a plurality of burners as disclosed by Applicant, a realistic jet fuel fire can be simulated. Certainly, more exotic material could be used such as heat resistant particles or the "lava rocks" which are used in a conventional propane cooking unit (barbecue). Such rudimentary systems were felt by Applicant (also one skilled in the art) to be so inexorably apparent to one skilled in the art that it was not necessary to elaborate on the specifics of the material.

[39] At the hearing, the Applicant stated that a grate would not constitute an appropriate surface for simulating a fuel spill fire on the ground. He argued that a grate would not diffuse the flame from a burner, as would other materials such as rocks or gravel, which would therefore better simulate a fuel spill fire on the ground.

[40] As in the case of the Applicant's earlier arguments to the Examiner, the arguments at the hearing are extrinsic evidence and cannot change an interpretation of the claims arrived at through a consideration of the four corners of the specification. Regarding the ability of the

material to diffuse the flame, if this was an important characteristic of the material chosen, it is not apparent from the specification. In view of the above, there is insufficient evidence for us to change our view that the skilled person, concerned with providing a surface aesthetically appearing to represent a ground surface on which a fuel spill occurred, would have been aware from Swiatosz that various materials could be placed atop the grate in order to simulate a fuel spill fire on the ground, and would have chosen appropriately.

[41] Accordingly, claim 1 would have been obvious to the skilled person on the claim date in view of the state of the art.

Claim 8

[42] The differences between Swiatosz and claim 8 were identified above, at para. 33.

[43] Regarding the first difference, namely that the claimed method includes providing a training apparatus that simulates a fuel spill fire on the ground, whereas state of the art training apparatuses simulated fires that may occur in a machine room, engine room or other room containing furniture, fixtures and equipment, this was covered in our analysis with respect to claim 1.

[44] Similarly, the third difference, that the claimed method provides a trainer including a burn surface contained within a pit structure, composed of a material to provide for the simulation of a fuel spill fire on the ground, whereas the trainer provided in Swiatosz includes the use of a metal floor grate disposed at the top of a pit structure, upon which may be disposed a material for simulating a class A material fire, was also covered in our analysis with respect to claim 1.

[45] As for the second difference, namely that the claimed method includes operating parameters and a training scenario having a fire growth rate and a fire spread rate and an

extinguishment difficulty level, Swiatosz teaches a programmed computer connected to the control unit for sequencing and interaction, which clocks for recycling and flashback capability, and can be adapted to meet specific applications encountered by firefighters. Operating parameters and a training scenario having a fire growth rate and a fire spread rate and an extinguishment difficulty level would have been among the parameters from which the skilled person would choose in designing the specific application of a fuel spill fire, and such choices would not have exhibited inventive ingenuity.

[46] Accordingly, claim 8 would have been obvious to the skilled person on the claim date in view of the state of the art.

Independent claims 11 and 18

[47] As noted earlier, claim 11 is similar to claim 1, except that it further defines the central operator control panel controlling the growth, spread and response of the flame pattern. And claim 18 is similar to claim 8, except that it includes this same additional feature.

[48] As noted above, Swiatosz teaches a programmed computer connected to the control unit for sequencing and interaction, which clocks for recycling and flashback capability, and can be adapted to meet specific applications encountered by firefighters. Fire growth rate, fire spread rate and extinguishment difficulty level would be among the parameters that one skilled in the art would have chosen in designing the particular application of a fuel spill fire, and would not have required invention.

Dependent claims 2, 3, 4, 12, 13 and 14

[49] Dependent claims 2, 3, 4, 12, 13 and 14 recite additional details of the training apparatus: the gas being propane or liquified propane; the gas distribution and burner system comprising a manifold, a plurality of selectively positioned burners disposed in the pit structure, each burner having a pipe connected to the manifold and having a pilot line with

a connection to its pipe for providing a pilot light for the burner; and each burner including a flame distribution element.

[50] These features, however, are taught by Swiatosz, and their use together with the other features of the claimed combination does not indicate an inventive step.

Dependent claims 5, 9, 15 and 19

[51] Dependent claims 5, 9, 15 and 19 recite the further feature of the extinguishing agent detection system including a plurality of detectors disposed respectively adjacent to the respective flame distribution elements. We interpret this to mean that this embodiment includes a plurality of flame distribution elements and a plurality of detectors, each detector disposed adjacent a respective flame distribution element.

[52] Both Swiatosz and Ernst teach an apparatus in which there is a single extinguishing agent detector for each training area (Ernst discloses multiple detectors, but only one in each room). In contrast, the instant claims provide for a trainer with a burn area having a plurality of zones, and selective control of each zone, so that directing an extinguishing agent at a portion of the burn area results in appearing to extinguish the fire in that area only. This functionality simulates actual conditions in the case of a fuel spill fire over an area of ground, as stated in the description, and distinguishes claims 5, 9, 15 and 19 over the other claims.

[53] In a sense, Swiatosz provides two "detectors": an extinguishing agent detector and a simulated valve switch. Regarding the former, the burner control system responds to detection of an extinguishing agent by the detector by reducing the supply of gas to a first burner (which extends up through the floor). As for the latter, the burner control system responds to activation of the switch by a trainee turning the simulated valve to the "off" position by controlling the supply of gas to a second burner (which extends horizontally

through a wall).

[54] However, this teaching to provide two types of detectors in relation to two different fires would not lead the skilled person directly to an apparatus for simulating a fuel spill fire on the ground including a plurality of extinguishing agent detectors disposed respectively adjacent to respective burners, thereby providing a burn area having a plurality of selectively-controlled zones. The provision of a plurality of zones is not a mere duplication of what is taught in Swiatosz, as it simulates dynamic class B (liquid) fires on the ground and approximates the localized behaviour of such fires and their spread. We find that an inventive step was required to arrive at this combination.

[55] Accordingly, we find that the subject matter of claims 5, 9, 15 and 19 would not have been obvious to the person skilled in the art on the relevant date.

Dependent claims 6, 7, 10, 16, 17 and 20

[56] Dependent claims 6, 7, 10, 16, 17 and 20 further define the gas distribution and burner system as comprising: a motorized gas supply valve connected in the gas supply pipe, the valve controlled by the central operator control panel; a plurality of motorized burner valves connected respectively to the burners, each valve controlled by the central operator control panel; and a manifold having separate pipes supplying the burners of the burner system.

[57] These features, however, are taught by Swiatosz, and their use together with the other features of the claimed combination does not indicate an inventive step.

OBVIOUSNESS: SUMMARY

[58] For the foregoing reasons, we are led to the conclusion that the subject matter of the following claims would have been obvious to the skilled worker on the claim date, in view

of Swiatosz and common general knowledge: 1 to 4; 6 and 7 (when dependent on 3 or 4); 8; 10 (when dependent on 8); 11 to 14; 16 and 17 (when dependent on 11, 12, 13 or 14); 18; and 20 (when dependent on 18).

[59] The following claims are considered to be non-obvious: 5; 6 and 7 (when dependent on 5); 9; 10 (when dependent on 9); 15; 16 & 17 (when dependent on 15); 19; and 20 (when dependent on 19).

RECOMMENDATIONS OF THE BOARD

[60] In view of the above findings, the Board recommends to the Commissioner that he:

- (1) inform the Applicant, in accordance with paragraph 31(c) of the Patent Rules, that the following amendments are necessary for compliance with the Patent Act and Rules:
 - a) deletion of currently pending claims 1 to 4, 8, 11 to 14, and 18, and
 - b) adjustment of claim numbering and dependencies of the remaining claims accordingly;
- (2) invite the Applicant to make the above amendments within three months from the date of the Commissioner's decision; and
- (3) advise the Applicant that:
 - i) if the above amendments and only the above amendments are made within the specified time, the Commissioner will consider the outstanding issues to have been addressed, and the application will proceed to allowance, and
 - ii) if the above amendments and only the above amendments are not made within the specified time, the Commissioner intends to refuse the application.

Paul Fitzner
Member

Mark Couture
Member

Stephen MacNeil
Member

DECISION OF THE COMMISSIONER

[61] Having reviewed the application file and the reasons of the Patent Appeal Board, I concur with the findings and recommendations. Accordingly, I find that the following amendments are necessary for compliance with the *Patent Act* and *Patent Rules*:

- a) deletion of claims 1 to 4, 8, 11 to 14, and 18, and
- b) renumbering of the allowable claims, and renumbering of claim dependencies as appropriate.

In accordance with paragraph 31(c) of the *Patent Rules*, I invite the Applicant to make the above amendments, and only the above amendments, within three months from the date of this decision, and I advise the Applicant that:

- i) if the above amendments and only the above amendments are made within the specified time, I will consider the outstanding issues to have been addressed, and the application will proceed to allowance; and
- ii) if the above amendments and only the above amendments are not made within the specified time, I intend to refuse the application.

I further advise the Applicant that the above-noted amendments are to be addressed to the attention of the Patent Appeal Board.

Sylvain Laporte
Commissioner of Patents

Dated at Gatineau, Quebec,
this 19th day of March, 2012