Citation: The Mattamy Corporation (Re), 2020 CACP 31
Commissioner's Decision #1551
Décision du Commissaire #1551
Date: 2020-10-16

TOPIC: O00 Obviousness

SUJET: O00 Évidence

Application No. : 2,438,154
Demande n^{o} 2 438 154

IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application number 2,438,154, having been rejected under subsection 30(3) of the *Patent Rules* (SOR/96-423) as they read immediately before October 30, 2019 ("former *Rules*") has consequently been reviewed in accordance with paragraph 199(3)(c) of the *Patent Rules* (SOR/2019-251) ("*Patent Rules*"). The recommendation of the Board and the decision of the Commissioner are to withdraw the rejection and allow the application.

Agent for the Applicant:

PERRY + CURRIER
500 – 1300 Yonge St.
TORONTO, Ontario
M4T 1X3

INTRODUCTION

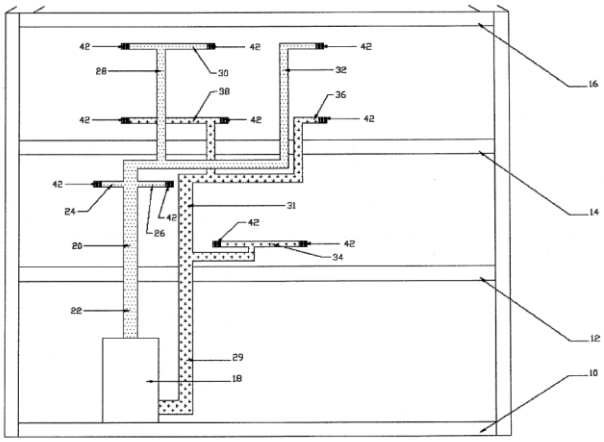
[1] This recommendation concerns the review of rejected Canadian patent application number 2,438,154 ("the instant application"), which is entitled "HEATING, VENTING AND AIR CONDITIONING (HVAC) SYSTEM FOR MANUFACTURED HOUSES" and is owned by THE MATTAMY CORPORATION ("the Applicant"). A review of the rejected application has been conducted by the Patent Appeal Board ("the Board") pursuant to paragraph 199(3)(c) of the *Patent Rules*. As explained in more detail below, our recommendation is that the rejection be withdrawn and the application be allowed.

BACKGROUND

The Application

[2] The instant application was filed in Canada on August 25, 2003. It was laid open to public inspection on February 25, 2005.

[3] The instant application relates to a heating, ventilation and air conditioning ("HVAC") system for multi-level houses. Rather than positioning air distribution and collection manifolds in a basement level and having multiple air risers passing from the basement to upper floors, the instant application proposes positioning the manifolds above the first floor. In this way the air passages from the basement to the first floor are minimized. Such an arrangement is particularly suitable for pre-fabricated houses that are to be set on a foundation, whereby the proposed arrangement minimizes the HVAC connections necessary after placement of the pre-fabricated house on its foundation. An embodiment of the invention as shown in Figure 2a of the instant application is reproduced below:



Prosecution History

[4] On November 24, 2016, a Final Action ("FA") was written pursuant to subsection 30(4) of the former *Rules*. The FA stated that the instant application is defective on the ground that all of the claims 1-6 on file at the time of the FA ("claims on file") would have been obvious and therefore do not comply with section 28.3 of the *Patent Act*.

[5] In a May 24, 2018 response to the FA ("R-FA"), the Applicant submitted arguments in favor of the patentability of the claims on file. No amendments to the application were proposed.

[6] As the Examiner considered the application not to comply with the *Patent Act*, pursuant to paragraph 30(6)(c) of the former *Rules*, the application was forwarded to the Board for review on November 2, 2018 along with an explanation outlined in a Summary of Reasons ("SOR"). The SOR set out the position that the claims on file were still considered to be defective due to obviousness.

[7] In a letter dated November 2, 2018, the Board forwarded to the Applicant a copy of the SOR and requested that the Applicant confirm its continued interest in having the application reviewed.

[8] No response was received to the letter of November 2, 2018.

[9] The present panel ("the Panel") of the Board was formed to review the instant application under paragraph 199(3)(c) of the *Patent Rules*.

ISSUES

[10] The sole issue to be addressed is whether claims 1-6 on file would have been obvious.

LEGAL PRINCIPLES AND OFFICE PRACTICE

Claim Construction

[11] In accordance with *Free World Trust v Électro Santé Inc*, 2000 SCC 66, essential elements are identified through a purposive construction of the claims done by considering the whole of the disclosure, including the specification and drawings (see also *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at paras 49(f) and (g) and 52. This is performed from the point of view of the person skilled in the art in light of the relevant common general knowledge ("CGK").

Obviousness

[12] The *Patent Act* requires that the subject-matter of a claim not be obvious to a person skilled in the art. Section 28.3 of the *Patent Act* states:

> 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.

[13] In *Apotex Inc v Sanofi-Synthelabo Canada Inc*, 2008 SCC 61 [*Sanofi*] at paragraph 67, the Supreme Court of Canada stated that it is useful in an obviousness inquiry to use the following four-step approach:

> (1) (a) Identify the notional "person skilled in the art";
>
> (b) Identify the relevant common general knowledge of that person;
>
> (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

ANALYSIS

Claim Construction

[14] There has been no suggestion during the prosecution that any elements of the claims on file are non-essential. Likewise, there have been no issues identified in relation to the meaning and scope of the terms used in the claims on file. We proceed on the same basis below. The person skilled in the art and the relevant CGK will be identified as part of the obviousness analysis under *Sanofi*.

Obviousness

(1)(a) Identify the notional "person skilled in the art"

[15] In the FA at page 2, the person skilled in the art was identified as "a ventilation system designer or installer."

[16] The Applicant made no submissions in the R-FA in respect of the definition of the person skilled in the art.

[17] In our view, considering that the instant application relates to HVAC systems, we characterize the person skilled in the art as a person skilled in the art of HVAC systems, including their design and installation.

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

[18] In the FA at page 2, the relevant common general knowledge of the person skilled in the art was stated as including "all known ventilation system design standards and standard practices."

[19] Although the Applicant made no submissions in respect of this identification in the R-FA, in our view, the above should be limited to commonly known standards and practices.

[20] In addition, considering the knowledge that is presented as well-known or conventional in the DESCRIPTION OF THE PRIOR ART section of the instant application, we take the following specific points to have been part of the relevant CGK:

- The manufacturing of completed or partially completed houses that are placed upon a pre-formed foundation;
- The advantages of manufactured houses, including improved working conditions, safety, efficient use of materials, energy and equipment;
- The inclusion of ducts/conduits in the manufactured houses for heating/cooling;
- The installation and connection of furnaces, A/C units and air distribution and collection manifolds in basements after placement of a pre-formed house on a foundation;

- The resulting passage of a large number of ducts through the basement ceiling;
- The placement of a furnace in a basement, which requires the least amount of energy for heating; and
- The advantages of using larger ducts rather than an equivalent number of smaller ones, such as reduced air flow noise and heat loss.

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

[21] As noted above, we are proceeding on the basis of the features of the claims, there having been no suggestion during the prosecution that any of them are non-essential. We use those same features below in our assessment of obviousness.

[22] Claim 1 on file is as follows:

> 1. In a house having at least first and second levels defining first and second floors respectively, and having a source of conditioned air disposed below the first floor, an air distribution and collection network connected to the source and comprising:
>
> a distribution manifold disposed above the first floor and in fluid communication with the source, for distributing the conditioned air from the source;
>
> a collection manifold disposed above the first floor and in fluid communication with the source, for collecting return air and directing the return air to the source,
>
> a first plurality of ducts connected to and in fluid communication with the distribution manifold and extending to a first plurality of locations on the first and second levels of the house, for distributing the conditioned air from the distribution manifold to the first plurality of locations,
>
> a second plurality of ducts connected to and in fluid communication with the collection manifold and extending to a second plurality of locations on the first and second levels of the house, for collecting the return air from the second plurality of locations and directing the return air to the collection manifold,
>
> a first riser connected between the source and the distribution manifold and extending through the first floor, for directing conditioned air from the source to the distribution manifold, and

a second riser connected between the source and the collection manifold and extending through the first floor, for directing the return air from the collection manifold to the source;

such that the first riser and the second riser are the only components of the air distribution and collection network to traverse the first floor.

[23] The remaining claims 2-6 on file are directly or indirectly dependent on claim 1.

(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

[24] In the FA at pages 1-2, the following prior art documents were identified:

D1:	US 4,324,288	Karns	Pub: April 13, 1982
D2:	US 5,413,165	Wylie	Pub: May 9, 1995
D3:	US 3,354,946	Dean Jr.	Pub: November 28, 1967
D4:	US 2,210,960	St. Pierre	Pub: August 13, 1940
D5:	US 2,465,184	Alderman	Pub: March 22, 1949
D6:	US 2,206,119	Persons	Pub: July 2, 1940

[25] In the FA at page 2, it is contended that the claims on file would have been obvious having regard to prior art document D1 in view of the common general knowledge as demonstrated by D2-D6. It was contended that D1 discloses:

> … a house having a distribution manifold (30, 32) above the first floor having a plurality of ducts, a collection manifold (26) with a second plurality of ducts, a first riser (29) directing air from a source to the distribution manifold and a second riser (fig. 1) connected for directing the return air from the collection manifold to the source.

[26] The difference between claim 1 on file and what is disclosed by D1 was identified at page 2 of the FA as being that D1 does not show that the collection manifold is located above the first floor.

[27] D1 discloses an apparatus and method for providing a relatively constant temperature level flow of discharge air from a reverse cycle air conditioning system that uses a heat pump. The disclosed system does show supply plenums (similar to manifolds) 30 and 32 that are disposed above the first floor, one above the first floor level and one above the second floor level (see Figure 1 of D1). However, the cold air return plenum 26 is disposed below the first floor level, near the ceiling of the basement level.

[28] We agree with the difference identified in the FA between D1 and claim 1 on file.

[29] However, we note that the focus of D1 is on a system ensuring that the temperature of air being discharged through the supply plenum remains constant and the associated components, such as damper 40, temperature sensor 70 and control 80. While the locations of the plenums are shown schematically in Figure 1, no significance is attached to their specific location. D1 is focused on providing a constant temperature air supply.

[30] We discuss below at step 4 the relevance of the other prior art documents D2-D6.

(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?

[31] D2 is directed to an apparatus for heating or cooling the levels of a multi-story building. D2 teaches locating the heating/cooling source in the attic of the multi-story dwelling with air directed downwards through the structure (see Figure 1 of D2), contrary to a conventional system where air is propelled from a lower level to an upper level (D2 at col. 1, lines 13-19). As illustrated in Figure 1 of D2, there is no indication that there is a level in the structure beneath the first level, such as is specified in claim 1 on file, with the source of conditioned air being below the first floor. The system of D2 uses individual floor thermostats and dampers controlled to supply conditioned air to the upper and lower levels individually depending on heating/cooling needs.

[32] While D2 discloses distribution manifolds positioned in the attic and above the first level in the first level ceiling, this is because D2 teaches locating the heating/cooling source in the attic. As the disclosure of D2 indicates, the arrangement is contrary to the conventional arrangement where the heating/cooling source is located in a lower level or basement, of which the system of the claims on file is an example.

[33] In our view, a person skilled in the art would not be led, starting from a document such as D1, which discloses a more conventional heating/cooling arrangement with a conditioned air source below the first level, to adopt the arrangement of distribution manifolds from D2, given that the arrangement in D2 is based on a very different premise, where the heating/cooling sources are located in an attic. In D2 the distribution manifolds are positioned at the upper levels since that is where the conditioned air source is located. We see no reason why the person skilled in the art would have been motivated to extract certain

features from D2 and use them in a very different system, such as that of D1, to arrive at the combination of claim 1 on file.

[34] D3 discloses an air conditioning system and in this case the heating/cooling source appears to be located below the first level, as it is in D1. However, the focus of D3 is on reclaiming and controlling the available heat from the interior lighting so as to reduce the required heat energy input by the heating unit (D3 at col.1, lines 16-22). In D3, the building is equipped with separate forced air perimeter and interior air distribution systems, with sources 22 and 23.

[35] In D3 there are at least two risers 24 traversing the first floor from the lower level to supply heated/cooled air, these also being split off into branches 25 that supply the heated/cooled air to the perimeter of the building through wall outlets 26. This is the perimeter distribution system that only supplies air to the perimeter portion of the building. The interior system comprises a riser 27 that also passes through the upper levels and branches off to manifolds in the space between the ceiling of one floor and the floor of a level above. Air is ejected from diffusers or attenuators 30 in the ceiling.

[36] Air is returned to the heating/cooling sources in D3 for the perimeter portion via spaces around the light fixtures that communicate with passages in the space between the ceiling of one floor and the floor of one above. In this way heat from the light fixtures can be reclaimed in the winter months or dissipated via another return route in warmer weather. Air return for the interior system is via grills 33 in the walls. Air return to the sources is kept separate via passages 14 and 15.

[37] D3 therefore discloses a system where there are more than two risers traversing the first floor to provide for air distribution and collection. In fact, D3 discloses separate air distribution and return systems for the interior and exterior portions of a space to be heated/cooled. We note that in D3 the passages for air collection for the perimeter system are made up of the spaces between levels, such that no ducts *per se* are provided between the supply points in a space and what may be considered a manifold.

[38] It is evident that D3 is directed to a very different system than that disclosed in D1 or that of the claims on file, where only two risers traverse the first floor and supply and collection manifolds with associated supply points connected by ducts are provided at the upper levels. As was the case with D2, we see no reason why a person skilled in the art would be motivated to pick an isolated feature from D3, such as manifolds at an upper level, which is

disclosed in a system that is as a whole very different from D1 or that of the claims on file, and then make a specific change to the system of D1 in order to arrive at the subject-matter of claim 1.

[39] D4 is directed to an air conditioning system where air is taken into the system through the basement. The air is circulated in passageways formed in the basement walls to cool or heat the intake air depending on the season. Air heated by a source below the first level passes through a duct 26 that passes through the first story of the building into the attic. A plenum 27 is provided in the attic from which the air passes downwardly between rafters and studs and exits through slots in the baseboards. Return air passes through slots or openings 36 along the tops of the rooms into the walls, between studs, then passes between rafters under the floor, then into the basement to circulate to the outside walls of the building and up along the outer walls and into the attic.

[40] In the case of D4, while there is a duct 26 through which air passes upward from the source, the remainder of the air circulation system is comprised of portions of the structure itself, for example the walls themselves forming the air passageways. In our view, this structure is very different from that of the claims on file where a series of ducts are connected to manifolds that are disposed above the first floor. In D4, any manifolds are actually part of the structure of the building, be it the walls, ceilings or floors. As such, the air distribution system is fundamentally different.

[41] We also note that there is no air collection network that returns air to the heat source in D4. As described above, the return air passes to the basement walls and eventually to the attic. Fresh air supply is provided through the basement walls from the outside.

[42] In our view, we see no reason why the person skilled in the art would draw inspiration from D4, which uses a fundamentally different air circulation system, to modify a system such as that of D1 in order to arrive at the subject-matter defined by claim 1 on file.

[43] D5 discloses an air distribution system that is similar to that of D4, where the air distribution system is integrated into the structure itself. In D5 the floor is composed of hollow tiles through which the air may pass. Air passes up through hollow walls and is discharged into rooms beneath and on the sides of windows and doors. Air is collected from the upper part of walls through return ducts that are part of the ceiling structure. The main heating mechanism is via radiant heat emitted from the floors and walls as the heated air passes through them, with the air then being discharged into the interior, collected and

returned to a heat source.

[44] Again, in our view, the person skilled in the art would view D5 as a fundamentally different system than that of D1 or that of claim 1 on file, with no ducts *per se* connecting the manifolds with a plurality of locations in the building and no manifold disposed above the first floor, the manifold in D5 being an integral part of the first floor. We also note that in D5 the supply air riser 11 does not traverse the first floor as set out in claim 1 on file, since it connects with an air distribution system that is an integral part of the first floor.

[45] In our view, the person skilled in the art would not, based on D5, be motivated to make specific modifications to D1 in order to arrive at the subject-matter of claim 1 on file.

[46] Lastly, D6 is directed to a building heating and cooling system with an air distribution system much like that of D4 and D5, with the air distribution network being an integral part of the building structure. Like D5, the system of D6 uses radiative heating as the primary heating method. Like D5, "risers" 46 and 63 disclosed in D6 do not traverse the first floor as set out in claim 1 on file, since the floor section of the first level is an integral part of the air distribution network and is connected itself to the risers.

[47] In our view, the person skilled in the art would not, based on D6 be led to make any specific modifications to a system such as D1, which uses a fundamentally different structure.

[48] We further note that there is nothing in the CGK that would point towards the claimed combination of claim 1 on file. Moving the air distribution and collection manifolds from below the first floor to above the first floor is contrary to the conventional arrangement of such a system in a residential structure.

[49] In light of the above, we conclude that claim 1 on file would not have been obvious and is therefore compliant with section 28.3 of the *Patent Act*. It follows that claims 2-6 on file, which depend directly or indirectly from claim 1, would also not have been obvious.

Proposed claims

[50] No claim amendments were proposed in the R-FA.

CONCLUSION

[51] We have determined that claims 1-6 on file would not have been obvious and are therefore compliant with section 28.3 of the *Patent Act*.

RECOMMENDATION OF THE BOARD

[52] In view of the above, the Panel is of the view that the rejection is not justified on the basis of the defect indicated in the Final Action notice and we have reasonable grounds to believe that the instant application complies with the *Patent Act* and the *Patent Rules*. We recommend that the Applicant be notified in accordance with subsection 86(10) of the *Patent Rules* that the rejection of the instant application is withdrawn and that the instant application has been found allowable.

Stephen MacNeil	Paul Fitzner	Jeremy Garnet
Member	Member	Member

DECISION OF THE COMMISSIONER

[53] I concur with the conclusion and recommendation of the Board. In accordance with subsection 86(10) of the *Patent Rules*, I hereby notify the Applicant that the rejection of the instant application is withdrawn, the instant application has been found allowable and I will direct my officials to issue a Notice of Allowance in due course.

Virginie Ethier
Assistant Commissioner of Patents

Dated at Gatineau, Quebec
This 16th day of October, 2020