

[other provisions not relevant]

- 5 Section 3 of the Act then sets out how the presence of an inventive step is determined:

An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).

- 6 It is well-established that the approach to adopt when assessing whether an invention involves an inventive step is to follow the steps originally set out by the Court of Appeal in *Windsurfing*¹ and reformulated by that Court in *Pozzoli*². These steps are:

(1)(a) Identify the notional “person skilled in the art”

(1)(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?

- 7 Lord Hoffman in the case of *SABAF*³ held that before one can ask whether the invention involves an inventive step, one must first decide whether you are dealing with one or more inventions. If two integers interact upon each other, or if there is synergy between them, they constitute a single invention having a combined effect and one then considers the idea of combining them under section 3. However, if each integer performs its own proper function independently of any of the others, and the claim is a mere aggregation or juxtaposition of features, then each is, for the purposes of section 3, a separate invention. The combination of a series of known or obvious features, each playing its usual part in the final entity, will be a matter of design or mere collocation, not of invention.

The invention

- 8 The present invention relates to a housing structure intended for use in urban environments where land available for housing is limited. The structure comprises at least three pairs of back-to-back houses. Each pair shares an adjacent rear “blind-side” wall, and the pairs are arranged side-by-side in a terraced formation. Each house is provided with its own upper roof space (e.g. a garden) formed from a flat roof extending the full width of the house but displaced from the blind-side. A lower roof extends across the width of each house pair and across the shared blind-side

¹ *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd* [1985] RPC 59

² *Pozzoli SpA v BDMO SA* [2007] EWCA Civ 588, [2007] FSR 37

³ *SABAF SpA v MFI Furniture Centres Ltd* [2005] RPC 10

wall. The upper roof is accessible via external stairs from the lower roof. The lower roof is only accessible via a door from an upper floor of the property.

- 9 The description on page 1 defines the problem addressed by the invention as to provide high density urban housing, with accessible enclosed gardens which are not overlooked. Later on that page, a further aim of the invention is described as the provision of the lower roof (which may also provide a garden area) below the level of the upper roof, to allow adequate natural light to enter the house at the rear.
- 10 At the hearing Mr Lamb described the housing structure as comprising at least 3 pairs of back-to-back houses arranged side-by-side to create a block of at least 6 houses. He explained that in conventional back-to-back terraced housing, the only way to get natural light into the middle houses is through the front and that is the problem the applicant has addressed with this application. I clarified that this was the problem addressed by the present application and not the parent application and Mr Lamb confirmed this to be the case. I note that although embodiments of the invention comprise windows located in the rear wall of the upper floor structure, none of the claims define any means for light to enter the rear of the houses.

The claims

- 11 The most recent set of claims were filed on 8 January 2016. The claims comprise two related independent claims 1 and 14. Claim 1 defines the structure and claim 14 defines a method of constructing the structure. For the purposes of this decision, the scope of the claims is equivalent and I shall only consider claim 1 in detail. Claim 1 is reproduced below.

1. A structure having at least three house-pairs arranged in a terraced formation, each house pair comprising:
a first house having an open-side and a blind-side;
a second house having an open-side and a blind-side, the first and second house being arranged such that the blind-sides are adjacent;
flat upper roofs, displaced from the blind-sides of the first and the second house, configured to extend substantially horizontally across the width of the first house and the width of the second house respectively, the upper roofs of the adjacent house-pairs being at substantially the same height; and
each of the first house and the second house having a lower roof, arranged beneath the height of the upper roofs and configured to extend substantially horizontally across the width of the first house and the second house respectively;
each house-pair comprising lateral sides configured to extend from the open-side of the first house to the open-side of the second house;
wherein the structure is configured such that the house-pairs are arranged side-by-side;
wherein there is a common roof extending across adjacent houses; and
wherein access to at least one upper roof is only via a stairway, located on the lower roof, external to the building, and further access to the lower roof is only via a door from an upper floor of the house.

Construction of claims

- 12 The intended scope of the term “adjacent” in claim 1 is unclear. The term “adjacent” is used only to define the location of blind-side walls (i.e. between back-to-back house pairs). House pairs located “side-by-side” are defined only as such. The lateral side walls are not specifically defined as being “adjacent”. Claim 1 defines a “common roof” extending across adjacent houses. If adjacent houses are pairs sharing a blind-side wall, then the common roof must be the lower roof. However claim 9 specifically defines the common roof as the lower roof. It is not clear whether the purpose of claim 9 is to define the common lower roof as a single structural element, or whether, in fact, the term “adjacent” in claim 1 also applies to houses located side-by-side. If it does, then the reference in claim 1 to the “common roof” could mean that at least one upper roof is common to at least two side-by-side houses. The scope of the claim is therefore not clear.
- 13 When I queried this point, Mr Lamb assured me that “adjacent” applies to either back-to-back or side-by-side. I will proceed on this basis, although I think the wording of the claim would benefit from clarification if I find in the applicant’s favour.
- 14 Despite this issue, the inventive concept is clearly directed towards the privacy and accessibility of an outside roof space, and allegedly the provision of natural light to the rear of the houses, rather than the construction of a roof as a common element. The clarity of the claim does not seem to impede its construction in this respect.

Arguments and analysis

- 15 The examiner maintains that the latest claims filed on 8 January 2016 define an invention which does not involve an inventive step, when considered in light of certain identified prior art and the common general knowledge. His position was set out most recently in the prehearing report of 18 February 2016.
- 16 It is for me to decide whether the invention does or does not involve an inventive step, within the meaning of the Act. To do so, I will follow the *Windsurfing/Pozzoli* steps set out above.
- 17 In his prehearing report on page 5, the examiner reiterates that the invention is a mere collocation of features. He does so in response to previous arguments by the applicant that the features of the claim interact synergistically. Before I consider whether the invention is obvious, I must decide whether the features of the present invention, when arranged together, provide a synergistic combined effect that goes beyond the mere juxtaposition of the features as the House of Lords did in *SABAF*.
- 18 The features of the invention defined in claim 1 consist of architectural elements which together address the problem of access to a secure outside roof space which is not overlooked. I am content that in addressing this problem the integers interact upon each other and constitute a single invention.
- 19 At the hearing Mr Lamb said that using the claimed arrangement, surprisingly, diffuse light from outside is sufficient to illuminate inside the rear of the building. I do not see how that can be the case because the claims define no features to enable the transmission of light. I do not, therefore, accept that the features of the invention

as defined by the claims interact or have synergy between them other than to provide access to an enclosed private outside roof space. They certainly do not interact in a way so as to illuminate inside the rear of the houses using natural light because the claims do not define any features which let light in.

- 20 I must consider the invention as claimed and the present set of claims does not contain any disclosure or suggestion that windows, light pipes, sky lights or any other form of transparent material is provided in either the rear wall of the upper floor or in the lower roof. As such this alleged unexpected advantage is not achievable given the scope of the claims, since they make no provision for light ingress into the houses. There can be no interaction or synergy between claimed features which provides that the invention essentially improves natural light in the rear of the houses.
- 21 The examiner and the applicant have considered a number of prior art documents variously disclosing individual and in some cases combinations of features of the claimed invention. None of the prior art individually discloses all of the features of claim 1, and Mr Lamb helpfully summarised at the hearing what he thought were the distinctive characteristics of the invention and its advantages:
- a. A full width upper roof, displaced from the blind-side, at substantially the same height for each house pair, which the examiner agreed was not disclosed in a back-back configuration in the cited prior art
 - b. That back-to-back and side-to-side housing configurations are taught against by the common general knowledge including the Wikipedia⁴ article cited by the examiner which describes disadvantages of back-to-back housing
 - c. That the skilled person would solve the problem of access to an enclosed private space by having the blind-side walls as the highest walls and “stepping the roofline down and forwards”
 - d. That surprisingly, using the invention, diffuse light is sufficient for illuminating the rear of the building, and surprisingly the external staircase does not obscure too much light

- 22 I will now consider whether the combination of features defined by the claims comprises an inventive step.

Step 1 – identify the notional skilled person and their common general knowledge

- 23 In the prehearing report the Examiner defined the notional skilled person as “a *domestic architect/house builder*”. At the hearing Mr Lamb and Mr Thorpe agreed with that definition. That is to say the individual would have a general knowledge of commonplace features in domestic dwellings and housing. I would, for example, expect them to have a knowledge of industry standards, materials and construction

⁴ https://en.wikipedia.org/wiki/Back-to-back_house

techniques and to be familiar with conventional ways of packaging dwellings dependent upon space utilisation requirements.

- 24 In the prehearing report the examiner referred to cluster/back-to-back housing being commonplace in built up areas and known for many years. He referred to a Wikipedia article⁵:

“The requirement for minimising land usage in urban areas is also well known, such side-by-side and back-to-back dwellings being one of many common design choices available to the skilled person. It is also known that existing buildings may be internally subdivided or combined at will according to need for ongoing use. The skilled person would also be aware of additional design features such as the particular arrangement of wall, doors, window, floors, internal and external staircases, balconies, common uses of internal and external spaces such as garages, roof-top gardens, as well as various underlying construction techniques including features such as shared walls and common roofs. All these features are considered to be entirely conventional in the art of house building and are disclosed abundantly in the prior art. You may wish to refer to the prior art raised in the previous reports as some examples of the skilled person’s common general knowledge.”

- 25 At the hearing there was some disagreement about what may be considered to form part of the common general knowledge of the notional skilled person. Mr Lamb stated that *“the idea that back-to-back housing was commonplace in modern building practice is disputed”*. There was agreement that the requirement for minimising land usage in urban areas is well known, but it was *“disagreed that side-by-side and back-to-back dwellings are a design choice that the skilled person would use”*. Support for this view was provided by referring to the citations, none of which disclose side-by-side and back-to-back houses. Further reference was made to the Wikipedia article which describes back-to-back housing as ill lit and poorly ventilated, and describes the mass demolition of such houses in the 1920’s, with no reference to their continued building. The agent argued that this supports the view that side-by-side and back-to-back housing is, according to the common general knowledge of the skilled person undesirable, disapproved of and not good for business. Reference was made to the case of *Dyson Appliances Ltd v Hoover Ltd*⁶, and the agent stated that the skilled person has to live in a commercial, practical world and take notice of prejudices in the art.

- 26 Having carefully considered these points, in my opinion the skilled person would be aware of back-to-back terraced housing and would associate it with high density urban development. Whilst it may not still be common place in new builds, it once was and I do not think the skilled person, having an awareness of it, would unlearn its advantages, despite different modern standards of illumination and ventilation. The question is whether the skilled person would arrive at the inventive concept given back-to-back housing as a starting point without exercising inventive ingenuity. I think the starting point itself is within the common general knowledge, and that the skilled person would not overlook its advantages of space utilisation because of a

⁵ Ibid

⁶ *Dyson Appliances Ltd v Hoover Ltd* [2002] RPC 22

prejudice against perceived disadvantages in illumination and ventilation, because the advantages of back-to-back housing remain relevant.

Step 2 – identify the inventive concept

- 27 In the prehearing report the examiner identified the inventive concept of claims 1 and 14 as the use of upper and lower flat roofs in back-to-back housing, access to the lower roof only provided through a door from an upper floor of the building, access to the upper roof only provided by an external staircase from the lower roof, thus providing inhabitants with a private and secure external area.
- 28 The skeleton arguments submitted before the hearing defined the inventive concept as the provision of houses in a terraced house pair configuration, where upper roofs on the open-side of the houses extend across the width of the houses and are accessible from lower flat roofs that extend across the width of the houses on the blind-side of the houses, this lower roof only being accessible from a door from the houses which thus provides secure and private external areas. At the hearing further emphasis was put on the importance of the upper roofs being of substantially similar height and extending across the full widths of the first and second houses, which the examiner has acknowledged would seem not be disclosed in the cited prior art.
- 29 These two definitions are not very different and on construing the claims, I am content to accept the applicant's definition, with the added specification that the upper roof is accessible from the lower roof via an external stairway.

Step 3 - Identify the differences between the state of the art and the inventive concept

- 30 At the hearing, Mr Lamb sought to prove that the invention was non-obvious by starting with cited document JP H0972113 (COMSON) and highlighting the many differences between the standalone house with terraced roof garden described therein, and the claimed invention; differences which, he alleged were numerous, synergistic and not all disclosed in the other cited documents. COMSON shows a split level roof garden, accessible via an external stairway. I agree with his reasoning that no other cited document is a better starting point given the purpose of their respective features. For example to configure the house of US 4779391 (TAYLOR) as a back-to-back house would require placing the buildings together, which would remove the access necessary to install a mobile home on the roof terrace; the very purpose of the configuration. To start with the building of CN 2547818 (WANKE ENTERPRISES) would be counterintuitive because its purpose is to provide terraced roof gardens which face the sun (and therefore do not oppose one another). Rather the state of the art is back-to-back terraced housing of the type referred to by the Examiner and discussed in Wikipedia, and the differences between that and the inventive concept are:
- a. *the full width upper roofs at substantially the same height on the open-side of the houses;*
 - b. *which are accessible only via an external stairway from full width lower flat roofs on the blind-side of the houses;*

- c. *the lower roof only being accessible from a door from an upper floor of the house.*

Step 4 – is the difference obvious to the skilled person?

- 31 While no single document alone discloses all the features of the present invention, the cited documents together illustrate a series of known architectural features which may be combined by the skilled person.
- 32 Disclosures in the cited prior art documents include; lower roof gardens with access only from an upper floor of the property; various designs of terraced housing arrangements with shared upper flat roofs; external staircases leading to roof gardens; upper roof gardens accessible only from a lower roof garden and back-to-back terraced housing;
- 33 What is the motivation to combine these features? The objective of providing access to a secure private outside roof space, in a back-to-back terraced housing configuration. In so doing do the required features interact upon each other or have a synergy? The door from the upper floor leads to a lower rear outdoor flat roof space on the blind side of the house, which is the secure side for access. An external stairway leads to an upper flat roof which by necessity given the rearward location of the lower roof is on the open side of the house, thus the roofline would step up and forwards. The selection of roof widths to be full width across the house, and of upper roof heights to be substantially the same are obvious choices given the requirements for maximum usable outside space and not being overlooked. None of these features would seem to be non-obvious choices, given the problem in mind.
- 34 Mr Lamb argued that providing a full width roof garden on top of a back-to-back terraced house would result in poor light levels and so be counter-intuitive. He explained that the solution was to displace the upper roof from the blind-side, but that light from the front would still be shaded by the top floor. He further explained that surprisingly the stairway to access the upper roof does not obscure too much light, and that therefore the claimed arrangement was not obvious in allowing natural light access to inside the rear of the house. I regret I disagree, for the reasons outlined above. I cannot accept the argument that natural light ingress to the rear of the house is a surprising benefit as the claims do not preclude an arrangement with no light transmission means. Whether or not the skilled person would have considered the provision of natural light to the rear of the building is moot as it is not a feature of the invention.
- 35 The combination of the features claimed then is obvious. The skilled person would have the problem in mind and each feature is either known or is an obvious design choice given the problem to be solved. No hindsight would be necessary to solve the problem. The skilled person would merely exercise the practical application of the information they have to hand. Considering the claim as a whole, the combination of all the features is obvious. Furthermore the skilled person would find it obvious to implement the additional features of the claims, such as a continuous or common roof, and/or construction being of a common slab, defining a courtyard, using dividing means and a spiral staircase when seeking to overcome the problem to be solved. These too are well known individually or obvious steps to take in achieving the objective. In fact I asked Mr Lamb whether structural features such as a load-

bearing roof were necessary to realise the invention and he stated that structural decisions are within the skill of the person skilled in the art, and no inventive activity is necessary to realise the *construction* of the structure of claim 1.

- 36 Notwithstanding that the skilled person would not need to exercise inventive structural ingenuity in arriving at the invention of claim 1, I have made no finding in respect of whether the contribution is of a technical nature. As Mr Lamb pointed out with reference to *Dyson Appliances Ltd v Hoover Ltd*⁷, commercial realities cannot necessarily be divorced from the kinds of practical outcome the skilled addressee would consider. Whilst I have found that the claimed features are not a mere collocation I do consider that their selection and combination is a matter of design. That is not to say they do not solve a technical problem, but it is to say I place at least equal emphasis on the resultant commercial advantages. Of course, as I have found, those advantages are in space utilisation and not illumination or ventilation. And as I have concluded above, the combination of features defined by the claim which provides the acknowledged advantages would be obvious to a person skilled in the art of domestic architecture and house-building.

Conclusion

- 37 I find that the claims, when properly construed, do not define an invention as required by section 1(1)(b). I therefore refuse the application under section 18(3).

Appeal

- 38 Any appeal must be lodged within 28 days after the date of this decision.

Ben Buchanan

Deputy Director, acting for the Comptroller

⁷ *Dyson Appliances Ltd v Hoover Ltd* [2002] RPC 22