IN THE HIGH COURT OF NEW ZEALAND
AUCKLAND REGISTRY

CIV-2013-404-4178
[2016] NZHC 1738

BETWEEN	ASSA ABLOY NEW ZEALAND LIMITED First Plaintiff
	ASSA ABLOY IP AB Second Plaintiff
AND	ALLEGION (NEW ZEALAND) LIMITED Defendant

Hearing: 18-22, 26-29 April and 2-4 May 2016

Counsel: C Elliott QC, N Taefi and T Ip for Plaintiffs
J Miles QC, M Sumpter and J Graham for Defendant

Judgment: 29 July 2016

JUDGMENT OF WHATA J

This judgment was delivered by me on 29 July 2016 at 2.00 pm, pursuant to Rule 11.5 of the High Court Rules.

Registrar/Deputy Registrar

Date: ……..

Solicitors: Terry IP Law, Wellington
Chapman Tripp, Auckland

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Introduction

[1] Assa Abloy New Zealand Limited (Assa Abloy) designed and patented a latching mechanism (**the Latch**).[1] Assa Abloy claims that Allegion (New Zealand) Limited's (Allegion) Stella locking mechanism (**the Stella**) has infringed Claims 18, 19, 20, 24 and 25 (the Claims) of the Latch Patent. Allegion responds that the Claims do no more than combine known uses and components to address a too broadly framed object of universal configurability. It also says that, in any event, Allegion's mechanism applies different mechanical principles and does not infringe the patent. Given these differences, I must resolve:

(a) Whether the Stella infringes the Claims; and if so

(b) Whether the Latch meets the requirements of novelty, inventiveness, a fair basis, sufficiency and utility in terms of the Claims.

[2] The full list of the relevant issues can be found at [32].

A guide

[3] Patent cases involve a number of key parts: the patent which discloses the invention to the world, the alleged infringer, the skilled addressee in the patented art (through whom I must construe the patent), and the prior art and common knowledge at the priority date (against which I must assess the alleged infringement and validity of the patent by reference to the view of the skilled addressee).

[4] The judgment commences by describing, in simple terms, the patented invention and its alleged infringer – [5]-[15]. This is followed by a description of the skilled addressee and the experts proffered as skilled addressees – [16]-[20]. The framework for the legal assessments that must be undertaken is then addressed at [21]-[31]. The infringement claim is resolved, first by reference to the object of the patent at [33]-[44], a detailed technical description of the patent (including all of its key features or integers) and the Stella is then discussed at [45]-[61]. The analysis of the infringement claim is carried out at [62]–[90]. The judgement then deals with

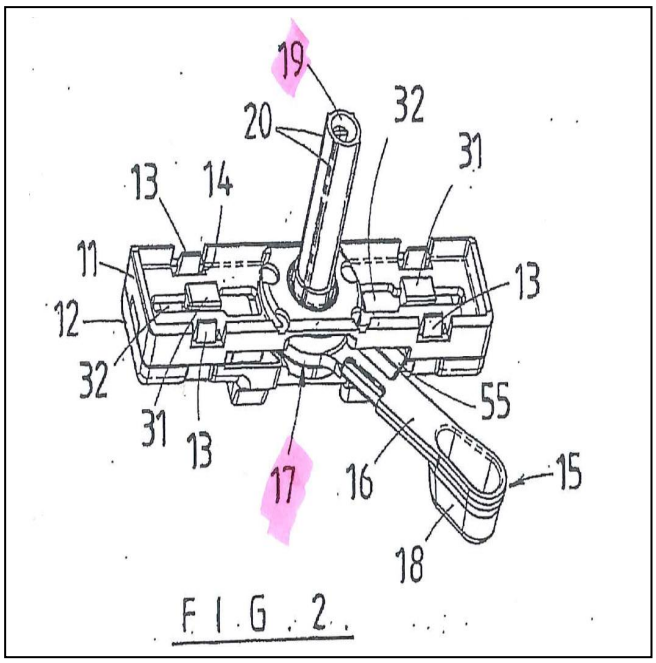
[1] The patent number is 526262.

invalidity claim, detailing the prior art and common knowledge at [93]-[98] and [116]-[136] and each aspect of the invalidity claim: novelty at [91]–[104], obviousness at [105]–[149] and the internal grounds (lack of fair basis/insufficiency/inutility) at [150]-[154].

The Latch

[5] Sliding doors commonly have a lever or snib that locks or unlocks the door from the inside. This is called daylatching. One of the early problems with the day latch lever is that provides very easy egress to burglars. Locking solutions were developed that could lock the door as well as immobilise the lever. This is called deadlocking and involved the use of key cylinders on the inside and/or outside of the door. In about 2000, Rana Waitai was tasked with designing a robust sliding door lever locking mechanism that could both daylatch and deadlock, and be used with the Interlock's (Assa Abloy's predecessor) range of locksets and the latest key cylinder technology. He also wanted to make the daylatch non-handed so that the lever or snib could always be positioned in the up position when it is locked (and thereby always signal to the homeowner that the door is locked). He succeeded in performing this task with the Latch.

[6] The Latch (in its manufactured form) has dominated the sliding lock market for nearly 15 years. As with many successful designs, it looks simple: a lever connected by a hollow circular tube to the locking mechanism:

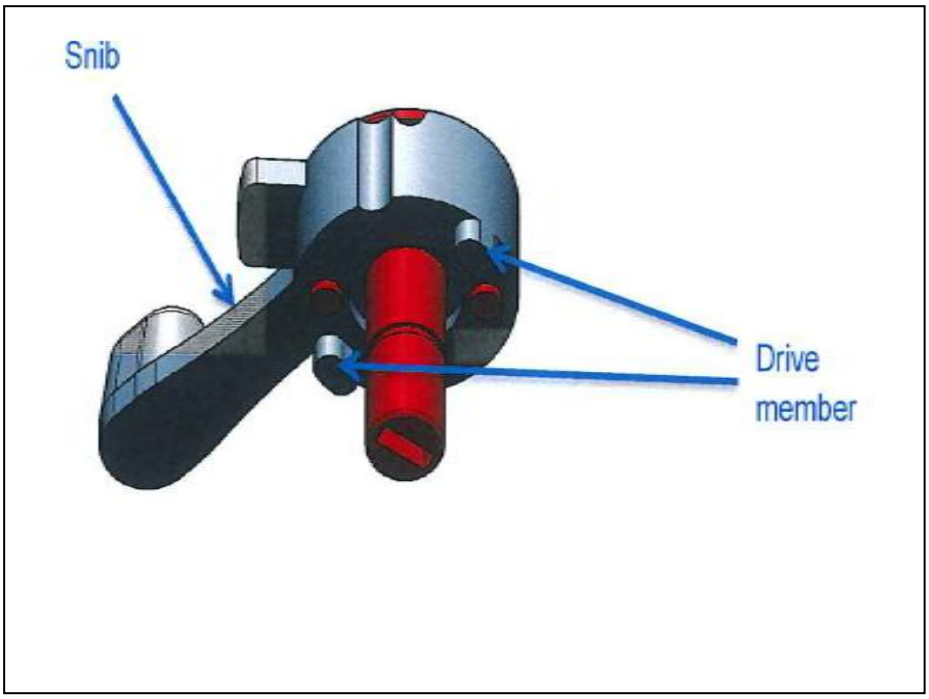


[7] The full set of technical drawings showing the preferred embodiment of the Latch is contained in Schedule 1 to this Judgment.

[8] Push the lever one way, the tube rotates turning the lock mechanism so that lock beaks open to engage with holes in the door frame. Pull the lever the other way, and the tube rotates back, turning the locking mechanism so that the beaks disengage from the holes in the door frame. Inside the tube is a shaft, which can also rotate without causing the tube to turn. Inside the shaft are two separate receiving areas into which two bars are inserted. The two bars are connected to key cylinders located on either side of the door. Turning the key turns the bars, which then rotate the shaft. The turning motion also turns a selector connected to the lever thereby locking or unlocking the beaks. It can also deadlock the lever when the selector reaches a certain point to release a lock bolt that will cause the snib to deadlock.

The Stella

[9] The Stella was developed in 2007. It performs the same functions as the Latch, but is not non-handed. To the layperson the Latch and the Stella look quite different. But to some very experienced locksmiths they work in an identical way in key respects. The Stella does not have a hollow tube connected to the lever. Rather, the base of the snib is shaped like a donut with two spigots protruding out from either side of the donut:



[10] These protrusions engage with the locking mechanism. Pushing the snib rotates the donut and the spigots, which in turn rotates the locking mechanism. This then pulls or pushes the beaks to open and close. Through the middle of the donut is a shaft around which the donut base rotates. The shaft is connected to the key cylinders either side of the door. Turning the key turns the shaft and the head of the shaft. When the head of the shaft reaches a certain position it will engage and move the donut and the spigots to lock and unlock the door. Turning the key still further will cause the head of the shaft to push two lock pins in the donut base to enter two holes in the lock furniture. This will cause the snib to dead lock.

[11] The full set of technical drawings showing the preferred embodiment of the Stella is contained in Schedule 2 to this Judgment.

[12] A technical description of the Latch and the Stella is set out at [45]-[61] below.

The patent specification

[13] Assa Abloy applied for a patent for a latching mechanism in 2001. The background section provides the context, while the summary describes the key aspects of the invention. It states:

> **TITLE OF THE INVENTION**
>
> **A LATCHING MECHANISM**
>
> **BACKGROUND OF THE INVENTION**
>
> This invention relates to improvements in latching mechanisms.
>
> Door locks in general are made up of the following functional components; a lock mechanism, a strike or striker plate and so-called "furniture".
>
> The lock mechanism includes the elements that move to secure the door from opening, or allow the door to be unlatched and opened. The lock mechanism is usually mounted to the moving panel. The strike or strike plate is the component that interacts with the lock mechanism e.g. a latch element. The strike plate is commonly fitted to the peripheral framing of the door commonly known as the jamb. The furniture is usually the visual element of the product. It includes the elements that the user interacts with

while opening or closing the door. The furniture is mounted on the moving panel.

In some forms of construction the lock mechanism and the furniture fitted onto the inside of the door are combined for convenience of manufacture and fitment. The functional components still exist within this single assembly however. Door locks are available in a range of locking options relating to the end use of the door that they are fitted to. These options include whether the door is to be fitted with a key cylinder on the outside of the panel if the door is to be used as an entry door for the dwelling. Often the internal side of the door lock is actuated with a lever or turn knob. Alternatively key cylinders can be fitted onto the inside of the door panel if internal security is a concern. A common configuration is that the internal panel is fitted with an actuating lever and a key cylinder. This allows egress from the dwelling with the convenience of a lever or turn knob, but the ability to deadlock the door should the dwelling be unoccupied for any period.

The locking options stated above are well known and commonly specified within the industry. It is common for lock manufacturers to produce all of these options and sell them as individual products. An advantage of the present invention is that it allows the range of locking options discussed above to be produced utilising a common locking mechanism. To configure the door lock to one of the locking options above alteration to furniture is all that is required. This allows for both manufacturing efficiencies and the possibility of product upgrade in the field.

Because of the "handing" of doors it is known to construct a latching mechanism so that it can be at least partly dismantled for altering the configuration or relative positions of components of the mechanism. In this way the mechanism can be configured so that the snib can, say, always be in the up position when locking irrespective of the handing of the door. The advantage of such a latch mechanism is that the manufacturer can sell the product as a non-handed item. This means that the manufacturer does not need to stock and sell mechanisms particularly suited for left and right-handed doors.

The removal and altering of components can be fiddly, time consuming and possibly result in the loss or breakage of a component. Consequently, when the latch mechanism is installed the installer may not bother with adjustment of the mechanism to suit the handing of the door to which it is to be fitted.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a latching mechanism which can be configured to suit end use requirements.

Broadly according to one aspect of the invention there is provided a latching mechanism including a housing, a snib rotatably mounted with the housing, two bolt receiving means movable with said snib, a lock bolt, and a selector adjustable to select which of said bolt receiving means will engage with a said lock bolt at a selected locking position of the snib, said locking position corresponding to a locked position of a lockset when latching mechanism is, in use, operatively associated with the lockset.

> According to the second broad aspect the invention provides a latching mechanism including a moveable snib, a drive member, coupled to the snib and rotatable by the snib about a first axis, a receiver including a first angular receiving area and a second angular receiving area each configured to receive a tailbar of a lock cylinder, said receiver being rotatable about a second axis independent of the drive member, and a selector adjustable by a said tailbar received in said receiver to move a lock bolt between a locking position where the snib is prevented from movement and an unlocking position where the snib is able to be moved, wherein the first and second axes are coaxial.

[14] A detailed description of the preferred embodiment follows (the drawings of which are included in Schedule 1 to this Judgment).

The Claims

[15] The patent then makes 26 claims. It is common ground that the first 17 claims address the first aspect of the invention, namely the ability to configure the latch mechanism in a way that it is non-handed. Most relevant, for present purposes, are Claims 18, 19, 20 and 25:

> 18 A latching mechanism including a movable snib, a drive member, coupled to the snib and rotatable by the snib about a first axis, a receiver including a first angular receiving area and a second angular receiving area each configured to receive a tailbar of a lock cylinder, said receiver being rotatable about a second axis independent of the drive member, and a selector adjustable by a said tailbar received in said receiver to move a lock bolt between a locking position where the snib is prevented from movement and an unlocking position where the snib is able to be moved, wherein the first and second axes are coaxial.
>
> 19 A latching mechanism as claimed in claim 18 wherein the selector is coupled to the receiver.
>
> 20 A latching mechanism as claimed in any one of the preceding claims 18 – 19 wherein the first angular receiving area communicates with an angular opening in the selector.
>
> …
>
> 25 A latching mechanism as claimed in any one of claims 18 – 24 including a housing which is fittable within the body of an item of lockset furniture.

The skilled addressee

[16] The Patent must be construed as it would be understood by the skilled addressee in the sliding lock art. For this purpose, the skilled addressee possesses the common general knowledge[2] on the art available in New Zealand as at the priority date,[3] but is utterly uninventive.[4] Common general knowledge includes: [5]

> …all that material in the field he is working in which he knows exists, which he would refer to as a matter of course if he cannot remember it and which he understands is generally regarded as sufficiently reliable to use as a foundation for further work or to help understand the pleaded prior art.

[17] Experts in the art may identify the common general knowledge and they may usefully tell us the reasons why the patent has a particular object and why claims in the patent have a particular meaning.[6] But the construction of the patent is for the Court alone.[7]

[18] In this case the parties have produced number of witnesses as skilled addressees and/or as witnesses of fact about the Latch, the Stella and the common general knowledge. They broadly fall into 3 categories (which together provide a reasonable framework for the skilled addressee):

(a) Party representatives who provided evidence about the Latch Patent (Mr Weyermayr)[8], the Stella (Mr Guinebert)[9] and the industry, including the parties and the market (Messrs Weyermayr, Guinebert and Wignell).[10] I found their evidence substantially helpful in terms of providing descriptive factual evidence.

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2 *Raychem Corp's Patents* [1999] RPC 497 (EWCA) at 503 and 516.

3 Being the date of the filing of the patent application: Patents Act 1953, s 11.

4 *Technip France SA's Patent* [2004] RPC 46 (EWCA) at [6]-[11].

5 *Raychem Corp's Patents*, above n 2, at 503–504.

6 *Technip France SA's Patent,* above n 4, at [12]; *SmithKline Beecham Plc v Apotex Europe* [2005] FSR 23 (EWCA) at [52]–[53].

7 *Lucas v Peterson Portable Sawing Systems Ltd* [2006] NZSC 20, [2006] 3 NZLR 721 at [25].

8 Mr Weyermayr has over 30 years' experience in the field of mechanical engineering. He currently heads Assa Abloy's product development team.

9 Mr Guinibert has been involved in the development of many patented locks during his 35 years in the lock industry.

10 Mr Wignell has a Bachelor of Engineering (Mechanical and Manufacturing) and spent almost a decade working as a technical support engineer for Interlock before moving to its sales department. He is currently responsible for Assa Abloy's national sales and strategy.

(b) Expert locksmiths who provided information as to the key elements or integers of the Latch Patent, the Stella, and common knowledge prior to and at the priority date (Messrs Baber,[11] Halliday,[12] Waitai (the inventor),[13] Cherry[14] and Sadgrove).[15] I found their evidence substantially helpful in relation to the construction of the patent and the description of the lock art prior to and as at priority date. I acknowledge that Messrs Baber, Halliday and Waitai also have formidable qualifications as inventors, demanding caution for the purposes of patent construction, novelty and obviousness.

(c) Expert engineers who provided expert opinion as to the key elements or integers, as well as to infringement and validity from an engineering perspective (Drs Das[16] and Gooch[17]). I have found their evidence substantially helpful insofar as they provided a conceptual description, from an engineering perspective, on these matters. I have applied some care in terms of the weight to be afforded to their evidence as to the prior art as at 2000. Neither was active in the "lock" art, to the requisite level of expertise, at that time.[18]

[19] All of the experts and witnesses of fact demonstrated a sound knowledge of their subject matter and, save in one respect, no serious issue of credibility was

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11 Mr Baber is a self-taught inventor. He makes his own lock hardware and security products. He is named as inventor in at least 20 mechanical patents filed in New Zealand, Australia, the USA and EU relating to locks, closers and stays. He has won several design awards.

12 Mr Halliday is the managing director and founder of a New Zealand company specialising in hardware for doors and sliding doors. He has over 20 years' experience in the industry. He is a self-taught designer and producer of door locks.

13 Mr Waitai is the general manager of Stafford Hardware Limited, which designs, manufactures and sells window and door hardware. He has been involved in product and design development for over 20 years.

14 Mr Cherry has over 40 years of locksmithing experience. He taught at the Northern Melbourne Institute of TAFE and was the Locksmithing Programme Coordinator. He has received numerous awards and belongs to several organisations all related to the field of locksmithing.

15 Mr Sadgrove has over 20 years of locksmithing experience and is familiar with the New Zealand markets for sliding door locks. He writes learning material and teaches locksmithing to apprentices of all levels.

16 Dr Das is a Senior Lecturer in Engineering at Auckland University. He is widely published and has received various awards and fellowships. He is a member of a number of reputable engineering associations.

17 Dr Gooch is an Associate Professor of Mechanical Engineering at the University of Canterbury. Prior to becoming an academic, he worked as a research and design engineer.

18 Dr Gooch had some limited experience in locksmithing.

raised in relation to any of them. Mr Baber (called by Allegion) was a director of Interlock/Assa Abloy during the development of the Latch. This raises prima facie issues about his independence and therefore his reliability, compounded by evidence of a subsequent patent dispute with Assa Abloy. But he was not closely connected to the development of the Latch, does not hold any ongoing complaint against Assa Abloy, and his technical evidence was transparently reasoned. I am therefore satisfied that he should not be discredited for apparent lack of independence or unreliability.

[20] My preferences in terms of the evidence will be explained where relevant below.

The frame

The starting point – interpreting the patent

[21] The issues in this case turn on the teachings and the claims purportedly disclosed by the Latch Patent. If the Stella is not anticipated by the teachings and the claims, then there will be no infringement. If the patent discloses no inventive step, or does so too narrowly or too broadly, then the claims will be invalid. Construction of the patent is therefore central to the outcome.[19]

[22] The principal frame for the interpretation of the patent is provided by Gault J in *Lucas v Peterson Portable Sawing Systems Ltd*:[20]

> [26] A patent specification is to be read as a whole and given a purposive construction. It must be construed as it would be understood by the appropriate addressee – a person skilled in the relevant art.
>
> [27] Each part of the specification is to be read objectively in its overall context and in light of the function of that part. The claims are to be interpreted by reference to the object and description in the body of the specification.
>
> [28] The claims define the scope of the monopoly conferred by the patent. They limit what others may do. They must clearly define the

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[19] I am grateful for the extensive submissions provided by Counsel on the interpretative framework. To repeat them would add unduly to the length of this decision. But their influence will be obvious to counsel; including in relation to those contested parts that I have preferred.

[20] *Lucas v Peterson Portable Sawing Systems Ltd*, above n 7, at [26] – [28].

> protected field so others may fairly know where they cannot go. The description in the body of the specification may assist interpretation but it cannot modify the monopoly the inventor has clearly marked out. If his claim is formulated too narrowly so that imitators do not infringe, that cannot be rectified by reference to the description. If it is too wide, consequent invalidity cannot be saved by reading in limitations appearing in the description. The description of a preferred embodiment of the invention is just that and plainly will not confine the scope of an invention claimed more broadly. All of this is well established.
>
> (Footnotes omitted).

Infringement

[23] The first step in terms of the infringement allegation is to construe the claim and define the monopoly.[21] This requires identification of each of the integers of the claims. The second step is to identify whether the Stella contains the integers. Only if the Stella contains every integer then the patent will have been infringed. Inevitably, the issues of construction and infringement are interwoven. Whether, for example, the claim includes variants on the literal description of an integer will depend on the outcome of the purposive construction of the patent's claims by reference to the view of the skilled addressee,[22] bearing in mind that the language chosen remains of critical importance.[23]

[24] This interpretative methodology is not to be confused with the "doctrine of equivalents", the effect of which is "to extend protection to something outside the claims which performs the substantially the same function in substantially the same way to obtain the same result".[24] But commonsense dictates that functional equivalence can be an important part of the background facts known to the skilled addressee because it may affect what he or she understood the claims to mean.[25] Functional equivalence may therefore usefully inform construction where the variant has no material effect on the invention, would have been obvious at the priority date

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21 Patents Act 2013, s 140 and *Lucas v Peterson*, above n 7, at [28]. Because the proceeding was commenced prior to the Patents Act 2013 coming into effect, the Patents Act 1953 applies to the counterclaim for revocation: see Patents Act 2013, s 254(2)(e).

22 *Catnic Components Ltd and Anor v Hill and Smith Ltd* [1982] RPC 183 (HL) at 242.

23 *Kirin-Amgen Inc v Hoechst Marion Roussel Ltd* [2004] UKHL, [2005] RPC 169 at [33] – Lord Hoffmann reminding us that: "The purpose of a patent specification, as I have said, is no more or less than to communicate the idea of an invention. An appreciation of that purpose is part of the material which one uses to ascertain the meaning."

24 At [38] (per Lord Hoffmann).

25 At [49] (per Lord Hoffmann).

to a reader skilled in the art and strict compliance with a restricted meaning was not intended. It might then be said that the patentee intended that the monopoly extend to the variant.[26] The central focal point remains, however, the language of the patent in light of its purpose and context. An enquiry into whether a variant is captured by the disclosure will not be necessary if the monopoly is clearly defined to exclude the variant, or more accurately, to include only the disclosed invention.[27]

Invalidity

[25] As codified by s 41 of the Patents Act 1953, a patent will be invalid if, among other things, it lacks:

(a) Novelty;

(b) An inventive step (i.e. it is obvious);

(c) A fair or sufficient basis; and/or

(d) Utility.

[26] The test for novelty is that any use or disclosure relied upon as anticipating the claimed invention must incorporate all the features of the claimed invention.[28] To put it another way: [29]

> The prior inventor must be clearly shown to have planted his flag at the precise destination before the patentee.

[27] This will involve identifying the claimed novelty and any prior art. What is to be decided is whether any constructions known or used in New Zealand before the priority date of the claim, or any obviously known variants, fall within the words of the claim.[30]

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[26] At [51] (per Lord Hoffmann), citing *Improver Corp v Remington Consumer Products Ltd* [1990] FSR 181 (EWHC) at 189.
[27] At [52] (per Lord Hoffmann). See also per Lord Walker at [138]–[139].
[28] *Lucas v Peterson Portable Sawing Systems Ltd*, above n 7, at [3].
[29] As per *General Tyre and Rubber Co v Firestone Tyre and Rubber Co Ltd* [1972] RPC 457 at 486 (per Sachs J).
[30] *Lucas v Peterson Portable Sawing Systems Ltd*, above n 7, at [33]

[28] Similarly a claim will be invalid if the alleged inventive step, having regard to the state of the art at the relevant time, would be obvious to a person skilled in the art.[31] In some cases, an additional factor to be considered is the approach to obviousness in the case of a claimed invention consisting of a combination of known elements. It will rarely be inventive to simply collocate two (or more) known mechanical features without synergistic interaction.[32] However, synergistic interaction between known features combining to constitute a new single invention may be valid provided the invention meets the obviousness test.[33]

[29] The method for assessing obviousness is well settled:[34]

> There are, we think, four steps which require to be taken in answering the jury question. The first is to identify the inventive concept embodied in the patent in suit. Thereafter, the court has to assume the mantle of the normally skilled but unimaginative addressee in the art at the priority date and to impute to him what was, at that date, common general knowledge in the art in question. The third step is to identify what, if any, differences exist between the matter cited as being "known or used" and the alleged invention. Finally, the court has to ask itself whether, viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention.

[30] In reaching a final view as to whether the inventive concept was obvious, it is appropriate to have regard to the problem that the patent purports to address – namely whether it addresses an identified problem and whether it would have been obvious to the skilled addressee to solve the problem in the way claimed by the patent.[35]

[31] Fairness and insufficiency concern the extent to which the patent discloses the technical contribution to the art made by the invention – the specification must

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31 At [55]

32 At [56]–[61].

33 *British Celanese v Courtaulds Ltd* (1935) 52 RPC 171 at 193 (HL); *Sabaf SpA v MFI Furniture Centres Ltd* [2004] UKHL 45, [2005] RPC 10 at [26]; *Lucas v Peterson Portable Sawing Systems Ltd*, above n 7, at [61]–[62]; *Sintes v WH Harris* HC Christchurch CIV-2006-409-1402, 27 February 2008 at [157] and [193]–[196]; *Carter Holt Harvey v Weyerhaeuser Company* HC Auckland CIV-2009-485-244, 31 March 2010 at [46] and [84]; *Abbot Laboratories v Evysio Medical Devices ULC* [2008] EWHC 800 (Ch) at [182]–[185].

34 *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 (EWCA) at 73–74.

35 *Ancare New Zealand v Cyanamid of NZ Ltd* [2000] 3 NZLR 299 (CA) at [67]; *Lucas*, above n 7, at [63] and [64].

sufficiently and fairly describe the invention and the claim has to be enabled by it.[36] Inutility addresses a different issue:[37]

> Inutility, in the sense in which that word is used in modern patent law and practice, is concerned solely with the scope of the claim, and the means that the claim covers a mechanism or process which is useless for the purposes indicated by the patentee, *i.e.* which does not produce the result or one of the results claimed.

The issues

[32] I am satisfied that, given the foregoing framework, and in light of the submissions and evidence, I must address the following issues:

Construction of the patent: defining the monopoly

(a) What is the object of the patent?

(b) What does Claim 18 mean to the skilled addressee?

Identify an infringement, if any

(c) Does the Stella contain all the integers of Claim 18?

(i) Are the spigots a drive member?

(ii) Are the spigots coupled to the snib?

(iii) Are the spigots rotatable by the snib?

(iv) Does Claim 18 require a separate receiver and selector?

(v) Is the Stella lock pin a lock bolt?

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36 *Biogen Inc v Medeva PLC* [1997] RPC 1 (HL) at 51 (per Lord Hoffmann).

37 D Young, A Watson, S Thorley & R Miller (eds) *Terrell on the Law of Patents* (14th ed, Sweet & Maxwell, London, 1994) at [5.121]. See also the cases discussed at [5.122]–[5.129].

Invalidity

(d) Is the Latch novel?

(i) Is the Latch disclosed by the Sentry (and/or other locking mechanisms)?

(e) Is the Latch obvious?

(i) What is the inventive concept disclosed by the patent?

(ii) What was the common general knowledge at the priority date to a skilled addressee?

(iii) Are there any differences between the prior knowledge and the Latch?

(iv) Is the Latch simply a combination of known art?

(v) What is the effect of the combination (if any) of the known art?

(vi) Are the differences (if any) obvious to a skilled addressee?

(f) Does the Latch lack a fair basis?

(i) Does Claim 18 exceed the inventive concept disclosed by the patent?

(g) Does the Latch lack a sufficient basis?

(i) Does the teaching in the patent include enough information to make a Stella latch?

(h) Is the Latch useful?

(i) Does the Latch deliver the promised invention?

What is the object of the patent?

[33] Mr Miles QC for Allegion contends that the object of the patented product is to provide a non-handing latching mechanism which can be configured to suit end-use requirements.

[34] Mr Elliott QC for Assa Abloy responds that the object of the invention is to simply provide a latching mechanism which can be configured to end-use requirements. He says that there are two broad aspects of the invention: non-handedness and configurability.

[35] For the reasons that follow, I prefer Mr Elliott's construction.

[36] First, the Latch Patent states that:

> It is an object of the present invention to provide a latching mechanism which can be configured to suit end use requirements.

[37] Second, the background section of the patent states that the "invention relates to improvements in latching mechanisms". It identifies the elements of a lock mechanism and that "[d]oor locks are available in a range of locking options relating to the end use of the door that they are fitted to". It says that:

> The locking options stated above are well known and commonly specified in the industry. It is common for lock manufacturers to produce all of these options and sell them as individual products. An advantage of the present invention is that it allows the range of locking options discussed above to be produced utilising a common locking mechanism. To configure the door lock to one of the locking options above alteration to furniture is all that is required.

[38] There is debate as to the meaning of "common locking mechanism" and, specifically, whether this in fact means "common latching mechanism". I will return this below at [113], when discussing the obviousness challenge. But, for present purposes, I simply observe that the Patent expressly refers to configurability to suit a range of well known locking options.

[39] Third, the summary of the invention refers to two aspects of the invention. Those aspects replicate Claims 1 and 18. Claim 1 addresses "handing", while Claim 18 addresses configurability. Whether Claim 18 does so validly is a separate matter of dispute, addressed below at [150]ff.

[40] Fourth, as Mr Miles suggests, the preferred embodiment set out in the specification exemplifies a non-handed latching mechanism. But I agree with Mr Elliott that the preferred embodiment contains all of the key integers set out at Claim 18 and so discloses a preferred method by which to achieve Claim 18. To illustrate, the preferred embodiment refers to:[38]

(a) A drive member: "A drive member or bar 19 fits with the annular mounting portion 17."

(b) Two receiving areas:

> Extending through head 39 and into shaft 38 is an angular receiving area or slot 40 which aligns with slot 35 in cap 33. Extending in from the other end of the shaft 38 is a further angular receiving area or slot 41. Slots 40 and 41 do not meet.

(c) A lock bolt:

> Referring more particularly to Figure 5, the distal end 32 of sliding bolt 26 is of a shaped form which in use engages against the outer wall surface or peripheral rim 43 of body 17 and the circumferential edge 44 of cap 34. End portion 42 includes a curved nose 45 and a square or angular nose 46. These respectively engage against rim 43 and edge 44.

(d) The first and second axes are co-axial:

> The substantially disc shaped body 17 can thus fit within the confines of the curved and opposed walls 24 so as to be rotatable about a central axis which is co-axial with the axis of the drive bar 19. Openings 21 and 23 are also co-axially aligned being the snib body 17 is located on floor 22 and between opposed walls 24.

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[38] The number references in the listed quotations relate to the components in the figures setting out the preferred embodiment of the Latch, contained at Schedule 1 of this Judgment.

[41] Whether the teachings contained within the preferred embodiment are sufficient is another matter of debate and addressed below at [153].

[42] Fifth, Mr Miles correctly observes that the decision on the Stella patent application and the IPONZ Abstract[39] identify non-handedness as the key output of the Patent. But they do not purport to limit the Patent's object to that output. The Stella Patent decision addresses only Claim 1 of the Latch Patent and the Abstract in fact commences with the following general statement:

> Patent 526262 A latching mechanism for use with a lock.

[43] Sixth, I have considered this interpretation in light of the evidence given by the experts, and in particular the evidence of Dr Das and Messrs Baber and Halliday:

(a) Dr Das observes that:

> …the object of the patent is conveyed in the "advantage" described at page 3, line 11 of the patent document: namely, that the developed latch mechanism enables the manufacturer to sell the product as a non-handed item.

Dr Das also disagrees with Dr Gooch's description of the patent's object, namely "a universal latching mechanism". Dr Das says that this is too broad.

(b) Mr Baber expresses the object in the patent in the following way:

> As I read the Patent, Assa invented a configurable latching mechanism which is:
>
> 1 "non-handed" (meaning it works for left and right hand doors); and

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[39] The IPONZ abstract provides: "Patent 526262 A latching mechanism for use with a lockset is disclosed. The mechanism has a housing and a snib (15) with lever. The snib (15) can be moved between latching and non-latching positions. A selector (33) is retained against movement with the snib (15) by retaining elements (45) engaged in recesses (48). The selector (33) can be moved to bring a recess (49) into alignment with a retaining element (45). Recess (49) is deeper than either of the recesses (48) which permits the retaining element (45) engaged with recess (49) to move sufficiently an associated lock bolt (26) to engage with a bolt receiving portion (47) of the snib to thereby lock the snib against movement. The selector (33) can be adjusted to determine which of a pair of lock bolts (26) will engage with which bolt receiving portion so that the handling of the latching mechanism can be adjusted."

2 where the snib can be configured so it can be in the "up" position when the door is locked, regardless of whether the latching mechanism is used in a left or right hand door.

In response to Mr Cherry's evidence that the overall objective of the invention is "a latching mechanism that is versatile and multi-functional", Mr Baber observes that the locking options deliverable by the patent lock do not describe any advancement on the versatility or functionality of sliding doors available in New Zealand in the late 1990s.

(c) Mr Halliday's interpretation coincides with Mr Baber's view of the object. He reasons that "there is quite a lot of talk about the advantages of a non-handed mechanism" in the patent. He elaborates in his third statement of evidence that the crux of the invention must be its non-handedness.

[44] But Messrs Baber, Das and Halliday have conflated the object of the patent with the advantages of the invention. The two need not be coextensive.[40] The object of the patent (as distinct from its advantages) is tolerably clear; namely to provide a latching mechanism which can be configured to suit end-use requirements.[41]

What does Claim 18 mean?

[45] Dr Das and Mr Cherry provided the primary evidence on the identification and meaning of the integers.[42] Their lists were broadly co-extensive, however, I have adopted Mr Cherry's slightly more detailed list as this better accords with Claim 18

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40 I respectfully adopt Tompkins J's reasoning in *Smale v North Sails (NZ) Ltd* [1991] 3 NZLR 19 (HC) at 31: "It is important to recognise the differences between different portions of the above passage. The first paragraph sets out the object. It is to provide improved sails and an improved method of constructing sails in which stretch or distortion in the luff area is minimised. That then is the object. What follows is the patentee's comment on what he believes is the advantages that will result from achieving the object."

41 Under cross examination Mr Halliday appeared to accept that the object of the patent is to provide a latching mechanism which is configurable in various ways, including handing.

42 Mr Baber also did so by necessary implication given his comparison to the prior art. His list is also broadly comparable to the lists provided by Dr Das and Mr Cherry.

literally construed and the description of the invention in the specification. The differences are not material in any event.[43]

[46] Mr Miles identifies five key issues that must be addressed to resolve the infringement claim. I will shortly come to them, but it is helpful first to provide an overview of the integers in the light of the object of the patent and the description in the patent (including the preferred embodiment). The item numbers to which I refer are linked to their respective components in the relevant figures contained in Schedule 1.

A latching mechanism

[47] A latching mechanism in the patent refers to the elements that move with respect to each other to engage the locks of the door. This is evident from the summary of both aspects of the invention, the figures and the description of the preferred embodiment, and this is broadly consistent with the description provided by both Dr Das and Mr Cherry.

Moveable snib

[48] A moveable snib refers to a lever that can be manually operated from an unlocked to a locked position. This is illustrated by item 18 shown in Figure 2 of Schedule 1.

Drive member

[49] The definition of the drive member is a matter of controversy. I come to its specific meaning below at [65]–[67]. It nevertheless appears to be common ground between Dr Das and Mr Cherry that in general terms the drive member is a mechanical part that will drive or push another part. The preferred embodiment is illustrative – see item 19 shown in Figure 2 of Schedule 1.

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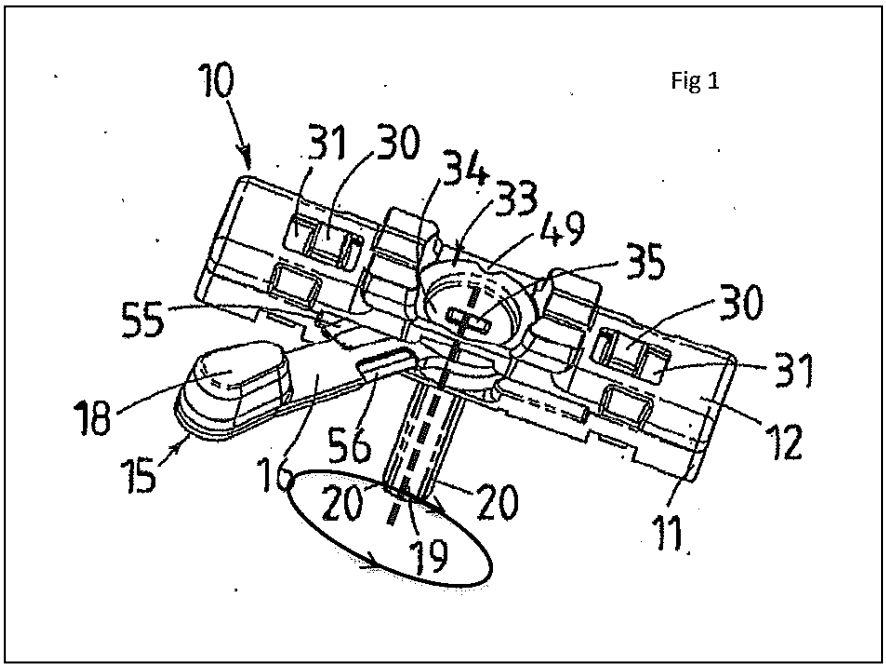
[43] Mr Elliott provided an even longer list. The subject matter of that list is effectively captured by the assessment provided by Dr Das and Mr Cherry.

Drive member coupled to snib and rotatable by the snib

[50] The concepts "coupled" and "rotatable" are also a subject of debate – see [68]–[73]. In the preferred embodiment the drive member is press fitted into the open centre (item 21) of the angular mounting body (or item 17). The member includes external ribs (item 20) which engage with the sidewalls of the open centre. The body is described as rotatable about a central axis, which is co-axial with the axis of drive bar (item 19). Figures 6 and 7 of Schedule 1 illustrate the components 17, 19, 20 and 21 and their relationship in the preferred embodiment.

Drive member rotatable about a first axis

[51] While there is disagreement as to the meaning of rotatable, both Dr Das and Mr Cherry agree that the following figures illustrate the first axis of rotation:



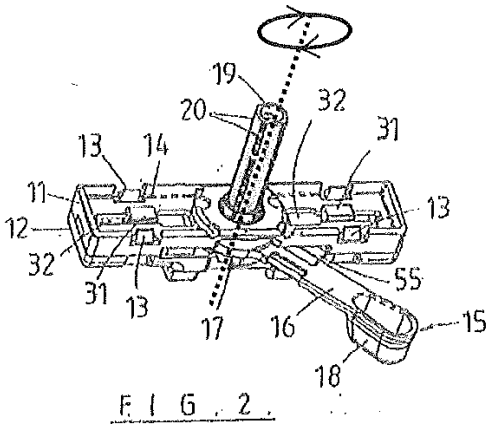


Figure 2: Rear perspective view highlighting the drive member and the first axis of rotation (patent 526262, page 1/6)

Receiver with two angular receiving areas each configured to receive a tail bar and lock cylinder.

[52] Dr Das and Mr Cherry broadly agree that in the preferred embodiment the receiver includes a shaped head (item 37) formed at one end of the shaft (item 39) that extends into the hollow area of the drive member. They also broadly agree that the angular receiving areas (items 40 and 41) receive the tail bar of a lock cylinder from either end. These components are illustrated by Figure 4 of Schedule 1.

Receiver being rotatable about a second axis independent of the drive member

[53] Dr Das and Mr Cherry explain that receiver can be rotated about a second axis, independent of the drive member, which means that when you turn the key on the outside, the lock does not turn on the inside.

A selector adjustable by a tailbar

[54] The selector is a broad term referring to a part that can select one function over another and thereby effect some change in the function of a mechanism. In the preferred embodiment it is identified as items 33 and 34, and is referred to as the cap. It fits on to the top of the disc shaped body (item 17) and has an inwardly dished

portion in the floor which is formed with an angular opening or slot (item 35). The tailbar consists of the shaft (item 38) and head (item 39) which engages with the selector cap. This relationship is shown in Figure 4 of Schedule 1.

Tailbar received in receiver to move lock bolt

[55] The role of the tailbar, as Dr Das describes, is "to engage with the selector to effectively drive the receiver and hence the lock bolts" to a locked or unlocked position. Mr Cherry opines that the lock bolt is referred to as "sliding lock bolt 26" and is designed to slide in a particular direction. I return to the significance of this below.

The two axes described are co-axial

[56] Claim 18 literally states that the first and second axes are co-axial. This means, as Dr Das and Mr Cherry stated, that the axes of the driver (item 19) and the receiver (item 37) are co-axial. The exact nature of the axial movement, however, is not agreed.

[57] Against this broad overview, I now turn to address whether the Stella contains all the integers.

Does the Stella contain all the integers of Claim 18?

[58] In order to assess whether the Stella infringes the Latch Patent it is necessary first to describe the key elements of the Stella.

A more detailed description of the Stella

[59] The Stella Patent records that the present invention relates to "a lock for a sliding barrier" which "may be locked with a key and or snib". The object of the Patent is to overcome or at least ameliorate disadvantages or address some of the desiderata listed in the background section of the patent. These include the convenient operation of the manual lever to operate the lock from inside the house, deadlocking by the key from the inside or the outside of the house in a manner that

prevents unlocking of the door by the manual handle, and that the locking mechanism is reliable in operation and compact in construction.

[60] The Stella patent includes a detailed summary of the invention including a housing, latch linkage moveable between locked and unlocked positions, and a locking assembly comprising:

(a) a moveable base member coupled to the latch linkage (lock beaks) to enable locking and unlocking;

(b) a manual lever capable of moving the latch linkage between its locked and unlocked position;

(c) an engaging member to enable deadlocking.

[61] The preferred embodiment is illustrated by Figures 3 and 4 (and the component references on those figures) contained in Schedule 2. I turn to briefly summarise the description of the preferred embodiment:

(a) The locking assembly 130 comprises a pivotally moveable cylindrically shaped base member 140, a manual lever 160 and an engaging member 170. The base member 140 is pivotally moveable about axis X-X relative to the said housing 110, and is coupled to sliding members by lug formations or spigots (item 142) that are received into dimensioned slots in the sliding members. Pivotal movement of the base member results in a sliding movement of the sliding members and hence the pivoting movement of the latch members (124 a&b) between the locked and unlocked position. The manual lever 160 is manually operable by a user to move the base member 140 between its first position and second position, thereby moving the latch linkage 120 between its locked and unlocked position.

(b) The preferred embodiment achieves deadlocking in the form of the locking arrangement 150 comprising a pair of locking pins 154, each spaced radially form axis X-X (the centre of base member 140). The locking pins rotate with the base member 140. When the locking pins engage with the lock formations (in the form of holes 116 in the housing), they extend from the base member 140 into the locking formations on the housing 110. This prevents pivoting movement of the base member 140 and hence prevents movement of the latch linkage 120.

(c) The locking pins can be driven towards their locking position by the engaging member 170. That member is engageable to a shaft 200 which is turned by a key barrel 600. This has no direct effect on the base member 140. But the patent observes that the base member 140 and the engaging member 170 need not be in two parts.

Points of agreement

[62] It is agreed that some of Stella features can be found in the Latch Patent. These features include a latch mechanism with deadlocking and daylatching functionality, a snib/manual lever to lock and unlock, the use of a tailbar/key shaft to activate the deadlocking function, and the co-axial movement of the drive mechanism and the receiver/cap. I turn now to the asserted points of difference.

Are the spigots a drive member?

[63] Allegion contends that by referring to "a" drive member, the patentee can be assumed to have attached significance to singularity and that the Stella has "two drive spigots" not "a drive member".

(a) The expert evidence

[64] Unsurprisingly the numerical difference is accepted by the experts. Mr Cherry also accepted that the use of two spigots involved a material mechanical

difference and that this reflected a deliberate design decision that is to accommodate a specific lock set. But he did not resile from his basic starting point that the spigots work together to perform the same technical purpose, to drive the mechanism, and hence could be referred to as a "drive member". Dr Das also said that "the drive member consists of two protrusions", and explained in cross examination that "a drive member will transfer the force from one element to another element". He maintained, however, that the Latch drive member and the Stella spigots are different in terms of actual force transfer design mechanical construction. He also said that the Stella spigots function in a different way to the Latch single drive member. Dr Gooch agreed that the drive member is the mechanical element that imparts force onto another element, but viewed the snib body in the Stella as the driver member, with the spigots as drive elements (like the ribs on the Latch drive member). Mr Sadgrove also viewed the snib and spigots as one driving member. This accords with Mr Guinibert's evidence that "our one piece snib which incorporates the latch lever, drive function and ability to lock the mechanism in one component when bass pins engage with indents in the base of the mechanism." Mr Baber accepted that "drive" has a well known meaning in this particular art – it means one part or element that drives another and that the Stella lugs/spigots drive the lock action. Mr Halliday broadly agreed with this conceptual definition of drive member, although he said that the Stella's requirement for two spigots to perform this function was an important difference to the Latch (without further explanation).

(b) Assessment

[65] "Drive member" is a generic concept broadly referring to the mechanical element that transfers or imparts force from one element to another. According to the skilled addressees the two spigots perform this function in the Stella, either as drive members or as drive elements. In short, they are the mechanism by which force is imparted by the manual lever to the lock set.

[66] Claim 18 refers to "a" drive member, and the preferred embodiment employs a single drive member. The patentee can be assumed, therefore, to have placed some significance on singularity. The presence of two or more separate drive members is not consistent with this basic premise and it is not obviously necessary to give effect

to the Patent's object (and on the evidence the Stella's two integrally formed spigots reduce rather than improve configurability). But, a drive member may logically consist of more than one part or driving element and, as both Mr Cherry and Dr Das did, the spigots or lugs can be fairly described as "the drive member" given that they are physically connected and work together in unison to drive the lock mechanism.

[67] For these reasons, a skilled person in the art would consider that the Stella contains "a drive member".

Are the spigots coupled to the snib?

[68] Allegion contends that the Stella does not include a drive member "coupled" to the snib as that term is commonly understood. Rather, the spigots are said to be integral as they are moulded to the snib. Allegion therefore argues that a skilled but uninventive reader would not read "coupled" in the patent to mean two parts "which could be coupled, but also could be made as one piece".

(a) The expert evidence

[69] Mr Cherry opined that coupled means the joining together of two separate parts, including components that could be integrally formed, although in cross-examination Mr Cherry accepted that the joining together of separate components was a common sense view of "coupled". Dr Das maintained that coupled in a mechanical engineering sense meant joined together with a fastener or with a press fit. Dr Das also emphasised that integrally forming the spigots to the snib in the Stella Patent significantly affected the functionality of the latching mechanism, for example, non-handedness could not be achieved. Dr Gooch agreed with Dr Das that the drive member and the snib in the Stella are not coupled, but that there was no functional difference between the Stella and Latch drive/snib configurations. Mr Baber said that coupling involves two independent parts coming together.

(b) Assessment

[70] Coupled in its ordinary usage means "being or joined together into a single entity."[44] Within Claim 18 of the Latch, "coupled" literally envisages two separate components coming together as suggested by the majority of the skilled addressees. This meaning is consistent with the syntax of the salient part of Claim 18 ("a drive member, coupled to the snib and rotatable by the snib") and by reference to the specification as a whole. Figure 4 (contained in Schedule 1) is illustrative – the drive member is shown as a separate part to be joined to the snib (though this does not limit Claim 18 to this embodiment). Balanced against this, a purposive approach supports a broad meaning of "coupled" to include any final combination that achieves the Latch Patent's object.

[71] As Mr Elliott submits, the form of the coupling should not be allowed to obscure the Patent's purpose or function. For example, a latch design exactly replicating the preferred embodiment of the Latch, but with the tubular drive member and snib integrally formed, would appear to the skilled addressee to be an obvious variant and objectionable in accordance with the *Improver Corp v Remington Consumer Products Ltd* guidelines.[45] The variant (an integrally moulded tubular driver) adds nothing to the invention, would likely have been obvious at the priority date, and strict compliance with the term "coupled" in terms of any particular form of coupling is not necessary.

[72] But the evidence shows that integrally forming the snib and driver in the manner used by the Stella inherently reduces the potential configurability of the latching mechanism, contrary to the object of the patent.[46] For example, it removes the capacity to adjust the length of the drive member without reconfiguring the lock mechanism which is a distinct advantage of the Latch.[47] In addition, two driving

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[44] This definition of "coupled", provided to me by counsel, comes from AudioEnglish.org <www.audioenglish.org>.

[45] See [24] above where these guidelines are explained.

[46] As Dr Das conceded in his evidence, where there are more components there can be a corresponding increase in versatility.

[47] Mr Waitai, the inventor put it this way: "I wanted to have flexibility in the length of drive member without having to change the entire tooling for the lock. As I mentioned above, the aluminium door frames varied in size and were becoming thicker. I wanted to be sure that if we needed to make a latch with a longer drive member, we would not need to make new tooling for

elements require two receiving points, further reducing configurability. An integrally formed snib and driver is also a backward step, reflected in the prior art, including the antiquated Sentry lock with the snib acting as the driver and the Albany lock's integrated snib/driver – see below at [96]–[98] and [126]. The integrally formed Stella, therefore, with its inferior functionality, manifestly departs from the anticipated utility served by "a driver, coupled to the snib" as contemplated by Claim 18.

[73] I am not satisfied therefore, applying the skilled addressee test, that the Stella contains "a driver, *coupled* to a snib" as anticipated by the Latch Patent.

Are the spigots rotatable by the snib about a first axis?

[74] Claim 18 requires:

> a drive member, coupled to a snib and *rotatable* by the snib about a first axis

[75] Dr Das emphasised that the Stella spigots "orbit" a central axis, rather than "spin" on it like the Latch driver member. The difference is best explained figuratively:

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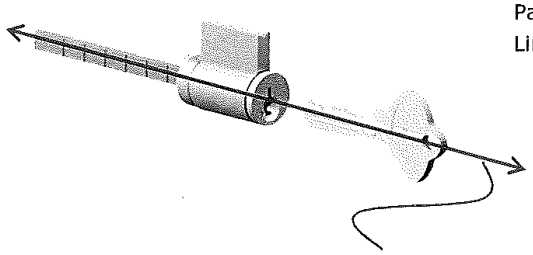
the lock. I made the receiver and selector out of two parts for the same reason."

The specification says a key is inserted in a lock cylinder and "rotated". A key always turns on the central axis of a key cylinder (it never orbits it)

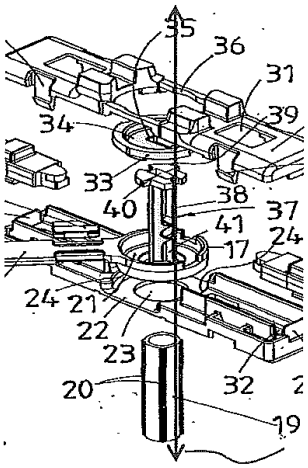
Page 12
Line 4.



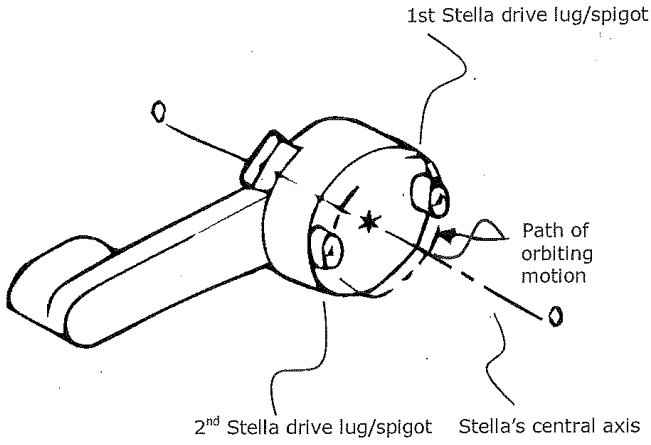
Axis of rotation

The specification says the cap 33 and the shaft 38 rotate together. The movement is always turning or spinning <u>on</u> the central axis of rotation (they never orbit it)

Page 12
Lines 11 and 12



Axis of rotation



[76] Allegion emphasised that a skilled person in the art could not make a simple tweak to the Latch to have the drive shaft orbit the central axis of rotation.

[77] But Dr Das explained in cross-examination that orbiting is a specific form of general rotational motion and as Messrs Baber and Cherry agreed the Stella spigots and the Latch drive member ribs are both rotating about a central axis. The mechanical and functional differences between the Stella and the Latch arise from the different configurations of the driving mechanisms in their preferred embodiment, but the concept of rotation about a central axis disclosed by Claim 18 is obviously deployed in both.

[78] I therefore prefer the reasons expressed in and adopt Mr Cherry's evidence.[48] A skilled person in the art would conclude that: "as with the Patented Latch, the drive member[s] in the Stella product rotates about a circular axis."

Does Claim 18 require a separate receiver and selector?

[79] Allegion submits that Claim 18 calls for a receiver and, separately, a selector.

(a) The expert evidence

[80] Dr Das asserts that the Patent refers to the receiver and selector as separate components but they are integrated in the Stella with a material impact on design and functionality, for example, it reduces the number of moving parts, improving durability. Conversely he says it removes the ability to non-hand the latching mechanism. Mr Halliday states that the language of Claim 18 communicates a separate receiver and a selector and agrees that the dual function selector/receiver would be more cost effective and simpler to assemble. Mr Baber shares this view. Mr Cherry accepts that there may be hypothetical commercial reasons why the Stella lock has been designed in this way but that none of the reasons relate to the functionality or use of the lock. Dr Gooch did not accept that integrated components necessarily yielded durability benefits.

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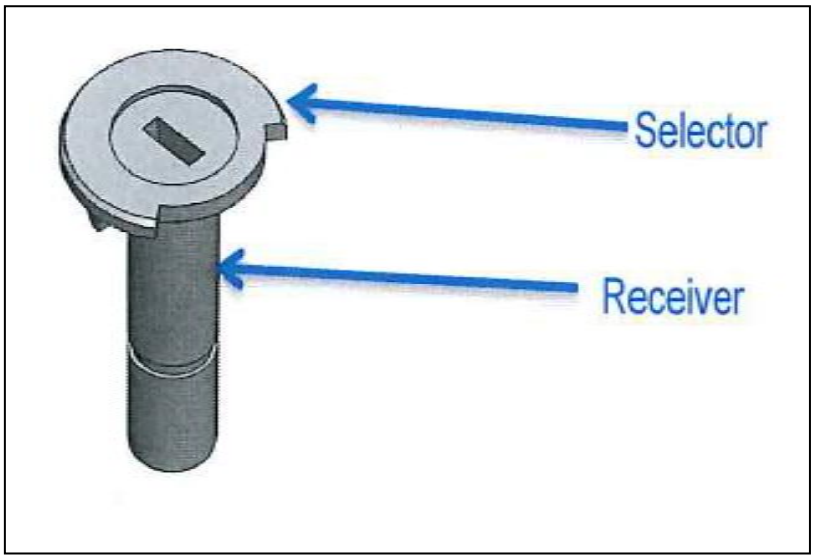
[48] Dr Gooch also explained that the ribs, on the drive member like the spigots, orbit the central axis rendering the difference moot. This generated substantial debate about whether the ribs spin on or orbit the central axis. It served to illustrate that the difference was more theoretical than real.

(b) Assessment

[81] Claim 18 does not specify the method by which the selector and receiver must be constructed. This is a matter of criticism in terms of sufficiency – see below at [153]. But its significance for present purposes is that, unlike the direction to couple of the driver to the snib, a skilled addressee is not directed by Claim 18 to join two separate parts. While the preferred embodiment envisages coupling of these components as does Claim 19, Claim 18 does not expressly require it and a purposive construction does not obviously demand it. In any event, the evidence on the effect of integrally forming the selector and receiver on configurability, manufacturing costs and durability is inconclusive – Drs Das and Gooch provided cogent yet contradictory evidence as to likely gains and losses from integrating components.[49] I also agree with Mr Cherry that the Stella receiver and selector are, like the Latch mechanism, distinct elements (whether integrally formed or not) that perform the same function as the Latch receiver and selector – that is to move receiver and selector to lock or unlock the snib. Mr Cherry's depiction of the Stella selector / receiver is illustrative:



[82] In the result, the decision to integrally form the selector and receiver does not add materially to the Latch invention, would have been obvious at the priority date and Claims 18–24 do not strictly require the selector and receiver to be joined or

[49] In contrast to the evidence as to the effect of integrally forming the spigots to the snibs. Quite plainly that process inhibited the capacity to integrate the latch mechanism to a lockset.

coupled in a particular way. I am satisfied therefore that a skilled addressee would consider that the Stella contained this integer.

Is the Stella lock pin a lock bolt?

[83] Allegion contends that the phrase at Claim 18 to "a lock bolt" is unsurprisingly referring to a single lock bolt, whereas there are two pins, not a single lock bolt, in the Stella – see Figure 6 (and, in particular, item 154) of Schedule 2. While Allegion accepts that the distinction between lock bolt and pin is "in the eye of the beholder", and that they broadly perform the same task, it submits that the use of two pins was a material design difference outside of any teaching offered by the patent. In short, Allegion submits that the Stella pins locking mechanism is "just so different".

(a) Assessment

[84] There was much debate about whether the Stella would work with one or two pins. But that is the wrong inquiry. It can be reasonably assumed that two pins were chosen because they work better than one pin. Rather, the proper inquiry is whether Claim 18 anticipates only the use of "a" lock bolt and not two lock pins. To address this issue it is necessary to briefly recap how the two mechanisms work.

[85] The Latch in its preferred embodiment employs two lock bolts to engage with cut outs in the snib hub, the effect of which is to lock the snib. This process is not described in Claim 18, but it is disclosed in Claims 19-24. These Claims envisage a rotating selector which then brings a cut out in the selector into line with a spring loaded lock bolt which in turn releases the bolt to engage with the cut out in the snib. All of this is accommodated within the Latch mechanism. The Stella employs two spring loaded pins embedded in the snib hub. When cams in the selector are rotated to align with the pins, they will be pushed into the body or furniture of the lock set the effect of which is to lock the snib.

[86] As Allegion appears to concede, the language of "lock pin" and "lock bolt" can be used interchangeably depending on context, or as Mr Halliday observed when

describing the Latch bolts as pins: "that's a scale thing and the fact that they're not visible and they're not part of the of the bit that bolts the door shut." Similarly, Mr Cherry found that the locking pins perform exactly the same function as the lock bolt, and Mr Baber also accepted that they are doing the same thing. Dr Das maintained that there were significant differences in the mechanics of the two locking systems. This is met by the evidence of Dr Gooch, who observes that Claim 18 is silent in terms of the precise mechanics of the lock. In any event, I prefer the conclusions of Messrs Cherry, Halliday and Baber as skilled addressees in the specific art of latching mechanisms, as distinct from mechanical engineering. To that extent the "lock pin" is an obvious variant on the "lock bolt" and anticipated by Claim 18.

[87] Both Mr Cherry and Dr Gooch accepted that the receiving furniture must be able to accommodate the Stella pins. Mr Cherry also accepted that this makes the Stella less flexible than the Latch. These design outcomes are not foreshadowed by the Claims 19-24 or the preferred embodiment. The Stella lock pin arrangement is therefore, as Allegion submits, "just so different" from the preferred embodiment. But Claim 18 does not expressly, or by necessary implication, purport to circumscribe the exact method by which a lock bolt is to lock the snib and Allegion's design choice should not obscure the readily available inference that a skilled addressee in the art would have little trouble exchanging the lock bolt for the lock pin. That was the conclusion that Mr Halliday quite properly came too when pressed on the issue.

[88] Dr Das and Mr Baber also attributed significance to the number of pins, noting that they serve a particular design purpose. Mr Halliday also observed that that two lock pins meant that the Stella cannot be non-handed. This last aspect is correct but only marginally relevant, as Claim 18 is not directed to non-handedness. The number of bolts is, however, a relevant consideration. As Claim 18 refers only to "a" lock bolt, the patentee must have attributed some significance to the number of bolts. Assa Abloy did not really square up to this aspect in closing submissions, reflecting the relatively minor attention it received in the hearing. In any event, the addition of another lock bolt (or pin) adds nothing to the invention, would have been obvious to a skilled addressee at the time of priority strict compliance with "a" lock

bolt is not necessary. The preferred embodiment and the current version of the Latch in fact have two lock bolts performing the deadlocking function. While this is the non-handed version, Claim 1 also refers to "a" lock bolt.

[89] Accordingly, I am satisfied that a skilled addressee would consider that the Stella pin locks are anticipated by the reference to a lock bolt.

Outcome of infringement claim

[90] The Stella does not infringe the Patent. The Stella with its integrally formed spigots does not contain "a driver, coupled to the snib". This difference is not simply a matter of form. The coupling process is key to the configurability of the Latch to meet the end-use requirements, as its inventor, Mr Waitai explained. Integrally forming the spigots to the snib is a marked departure from this basic feature that is not anticipated by Claim 18 of the Latch.

Invalidity

[91] Allegion submits that the Latch Patent is invalid on the grounds of lack of novelty, obviousness, insufficiency, lack of fair basis and inutility.

Is the Latch novel?

[92] Allegion rested its novelty claim in closing on the Latch having been anticipated by the Sentry, referring to Mr Baber's evidence and the asserted admissions by Mr Cherry and Mr Waitai that the Sentry had all of the Claim 18 elements. I turn then to examine whether the Latch is disclosed by the Sentry.

(a) The Sentry

[93] It is first necessary to describe the Sentry. Mr Weyermayr helpfully provided a detailed description of this locking mechanism which was not contested (as distinct from his opinion on the elements). [50] My summary of the Sentry (and the other pre-

[50] While I have adopted Mr Weyermayr's descriptions, I have removed his opinion as to functionality preferring to rely on the independent expert evidence on disputed matters. For

existing locks – see below at [116]-[130]) is borrowed from his evidence, including his illustrations. [51]

[94] The Sentry has a selector cam, a locking hammer, a snib with a lock beak, and two receiving parts, the first receiving a tailbar and the second receiving a cap from the wafer cylinder. These are shown in Figure 4 below.

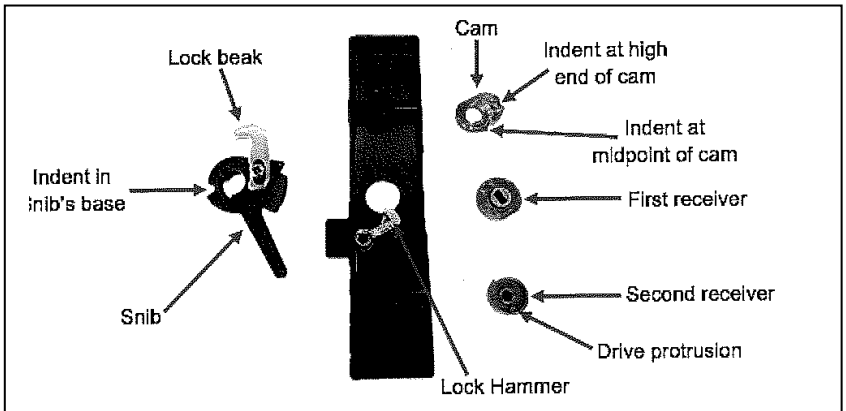


Figure 4: the parts in the Sentry lock

[95] The first receiver has a protrusion which the cam fits onto through a D-shaped hole. The second receiver has a female protrusion that fits on top of the D-shaped protrusion from the first receiver. This is shown in Figure 5 below.

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completeness I do not adopt the reference to "drive" protrusion in his Figure 4.

[51] No other witness offered a comprehensive description of these locks so I adopt his evidence in the respect. I have not, however, adopted for this purpose his reply opinion evidence.

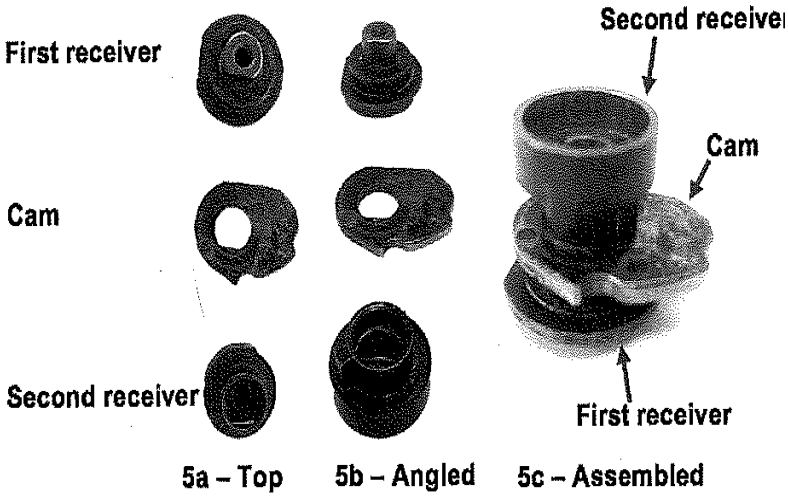

Figure 5: the receivers and the cam are one piece shown from three different views – Top (5a), Angled (5b) and Assembled (5c)

[96] The receivers can rotate (when a key cylinder causes them to rotate), and because they are connected to the cam, the receiver will rotate the cam. This allows a key to rotate the snib and also to move the cam to change from daylatching to deadlocking.

[97] The Sentry can be operated by hand (when it is not deadlocked) or by key. To operate the Sentry by hand, the operator would apply force to the snib and rotate it. Rotating the snib rotates the lock beak moving it from locked into unlocked position. This is shown below in Figure 6.

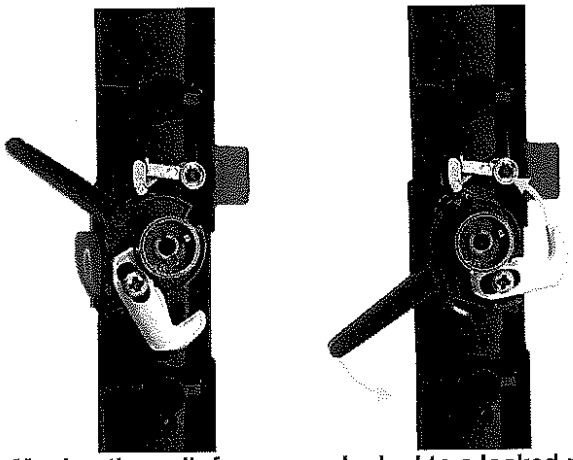

Figure 6: Moving the snib from an unlocked to a locked position

[98] To operate the Sentry by key, a tailbar which is inserted from the outside cylinder (or the cap) from the internal wafer cylinder would be turned by a key. If the external lock was used, the tailbar would rotate causing the first receiver to rotate. Turning the first receiver turns the cam and the second receiver. Similarly, turning the internal waffle cylinder's cap causes the second receiver to rotate, which causes the whole mechanism to rotate. The second receiver has a protrusion which, if rotated sufficiently, engages with the cut out portion in the snib's base and can turn the snib, and with it, the lock beak. This can move the lock beak from the unlocked to the locked position and vice versa.

(b) Expert evidence on whether the Latch is disclosed by the Sentry

[99] Mr Baber and Mr Sadgrove opined that the Sentry discloses all the features of the Latch, but said that the snib and driver in the Sentry are an integrated component and therefore not "coupled". Mr Halliday said that if he accepted the interpretation of Claim 18 adopted by Assa Abloy, then he would see those claims reflected in the Sentry. But he did not agree with Assa Abloy's definition of coupled as including an integrally formed drive member. Mr Waitai explained that the Sentry had daylatching and deadlocking elements, co-axial snib/lever and cam rotation, but it did not have back-to-back tailbars, or a rack and pinion to move the beaks, as the lever is directly connected to the snib. Mr Weyermayr said that the snib and lever were one piece and

so not coupled. Dr Gooch identified that the Sentry had all the sub-functions of the Latch. But he observed that the snib/drive member were not coupled and concluded that the Sentry did not possess all the solution principles to achieve universal configurability (which he thought was the object of the Latch Patent). Mr Cherry accepted under cross examination that: (a) the Sentry was a latch mechanism, (b) the snib was the drive member, (c) the snib moves independently on a central axis, (d) the receiver (cam) and selector (cap) rotate on the same axis when a key is used, and (e) the locking hook was a lock bolt.

(c) Assessment: is the Latch disclosed by the Sentry?

[100] At a broad brush level, as Mr Cherry appeared to concede, the Latch discloses all the key features of the Sentry – a latch mechanism configured to enable the full range of locking options: a snib driven latch/locking mechanism, co-axial movement of the snib and the receiver/selectors (shaft/tailbars/cams) and lock bolts/hook to enable deadlocking. But a skilled addressee in 2000 would have identified at least two key differences.[52] All of the experts agreed that the Sentry has no drive member "coupled" to the snib. There is no separate drive member in the sense used in the patent.[53] The snib is the drive member and coupled directly to the lock beak by a screw, effectively integrating the lockset to the snib. This inherently limited the configurability of the Sentry to other locksets, including double beak locksets, and produced a low security rating. It also did not have back-to-back tailbars.

[101] By contrast, the coupling of a separate drive member to the snib, together with back-to-back tailbars,[54] are key features of the Claim 18, enabling the Latch to configure, via a single drive member, to a wide range of locksets, including two-point and multipoint locksets not anticipated by the integrated snib configuration of

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52 Assa Abloy identified 6 differences: (a) not a latch mechanism; (b) no drive member; (c) except a protrusion on the second receiving area that drive the snib and is not rotatable by the snib; (d) two receiving areas, but only one receiving a tailbar; (e) the receivers do not rotate on an independent axis; (f) there is no lock bolt but a hook. Save in respect of the drive member and two tailbars, these differences are matters of form not substance, as Mr Cherry's evidence under cross-examination revealed.

53 Except in the sense of the protrusion on the second receiving area if rotated sufficiently engages with the cut out portion in the snib's base and can turn the snib and with it the lock beak.

54 The cam of the Sentry performed the role of the tail bar, further limiting the configurability of the Sentry.

the Sentry. The difference, therefore, is not simply one of form. It marked a clear departure from the Sentry in both form and function.

[102] Accordingly, the Sentry did not display all the features of the Latch.

(d) The other latch mechanisms

[103] Given that Allegion did not refer to the other pre-existing art in closing for the purpose of the novelty claim, I need not dwell on it long in this context. I immediately dismiss the US patents and the Lockwood 900S pleaded by Allegion. Mr Baber, the key witness on the prior art for Allegion, observed that: the US patent 5,098.139 and Lockwood 900s do not contain co-axial movement of the receiver and the snib; and that the US patent 3,871,198 has some differences from Claim 18. There was no evidence to suggest that the Astroline (also pleaded as prior art to challenge novelty) disclosed all the features of the Latch, and Mr Baber conceded in cross-examination that it contains no lock bolts and employs a different drive mechanism to engage the beaks.

(e) Outcome of novelty challenge

[104] The prior art identified by Allegion did not contain all of the features of the Latch. Therefore, the Latch Patent is not invalid for lack of novelty.

Is the Latch obvious?

[105] The thrust of Allegion's invalidity challenge is premised on the complete absence of an inventive step; and that, like the patent in *Lucas v Peterson Portable Sawing Systems Ltd*,[55] the Latch is no more than the combination of known integers. The Latch, Allegion says, simply produces a range of locking options that are performed in a well known and well established way.

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[55] Above n 7.

[106] But I have found it helpful to follow the first three *Windsurfer* steps[56] in order to address whether the Latch represents a simple collocation or combination of known integers and, if so, whether there is a synergistic interaction between these integers so as to render the Latch a "single invention" in terms of *Sabaf Spa*.[57] If I find there is a synergistic interaction, then I will address the ultimate issue of obviousness.

Step 1: What is the inventive concept disclosed by the patent?

(a) Submissions

[107] Assa Abloy contends that the Claim discloses an invention that:

> is a latching mechanism with a drive member enabling it to be used with different locksets. It also can provide a range of locking options from latching (due to the snib being coupled to the drive member), locking from either side or both sides (due to the receiver with two receiving areas) that enabled using 5 pin cylinders, deadlocking (due to the cut out, the lock bolt and the selector). It is also clear that it could be reasonably self-contained.

[108] Assa Abloy says the inventive concept is a combination of the following features:

(a) Drive member: specifically adapted to drive, inter alia, locksets with counter-rotating twin beaks and multiple beaks;

(b) Receiver with two receiving areas each capable of receiving the tailbar of a lock cylinder;

(c) Lock bolt moving between locking position and unlocking position;

(d) Co-axial arrangement of drive member and receiver that can move independently of each other.

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56 Set out above at [29].

57 This is the approach that was taken by this Court in *Huhtamki Australia Pty Ltd v SEDA SpA* HC Auckland CIV-2010-485-509, 19 April 2011.

[109] The Assa Abloy witnesses described the inventive concept in various overlapping ways (helpfully collated by Mr Miles):

> Mr Waitai had his "coaxial, deadlocking and latching mechanism".
>
> Mr Cherry stuck to his mantra of "multi-functional latch mechanism".
>
> Dr Gooch invented the notion of a "universal latching mechanism".
>
> Mr Wignell preferred "one locking mechanism that can be configured multiple ways [to achieve the four known locking options]" and describes those options as "a significant technical advance".
>
> And Mr Sadgrove saw the invention as a lock with "a deadlock function and the daylatch function [which] could both be operated with a single turn of a key".

[110] By contrast, Dr Das and Messrs Baber and Halliday described non-handedness as the key advantage or crux of the patent.

(b) Assessment

[111] For the reasons stated at [33]-[44], the object of the patent is to provide a latching mechanism which can be configured to end-use requirements. This has two clear aspects, non-handedness, as expressed by Claims 1-17, and a latching mechanism, as expressed by claims 18-25. The inventive steps contained in Claims 1-17 are not disputed (for present purposes). The asserted inventive steps in Claim 18 are in focus, and in particular the four elements highlighted by Assa Abloy (noted at [108]). They are clearly directed to the first claimed advantage, namely they allow "the range of locking options identified above to be produced utilising a common locking mechanism".

[112] While the experts for Assa Abloy circle around the inventive concept underpinning Claim 18, and the Allegion experts appear to discount the plain words of the patent dealing with configurability (sans non-handedness) altogether, the core theme is one of configurability; that is a common latching mechanism configurable to the identified range of locking options.

[113] One point of dispute in this context is whether the reference to "common locking mechanism" in the patent (see [13], [37]–[38] above) can be equated with

"common latching mechanism." In an abstract sense they relate to two different elements of the lock (i.e. the latch device as compared with the lock set). But in context, the reference to common locking mechanism plainly included within it a common latching mechanism.

[114] I am satisfied, therefore, that the purported inventive concept, as posited by Mr Elliott, at [107] is disclosed (in the sense of being claimed) in the patent. I turn now to consider whether the concept and the four claimed steps were, in fact, inventive.

Step 2: What was the common general knowledge at the priority date to a skilled addressee?

[115] A skilled addressee would have known the main locks in New Zealand. They are: the Sentry, the Modline, the Astroline, the Lockwood 900S and the Albany range. I have described the Sentry at [94]-[98]. In order to understand the extent of the common knowledge at the priority date, it is helpful to describe the other locks in some detail, again borrowing from Mr Weyermayr's summary.

(a) The Modline

[116] There are four main parts to the Modline. These are shown in Figure 1 below.

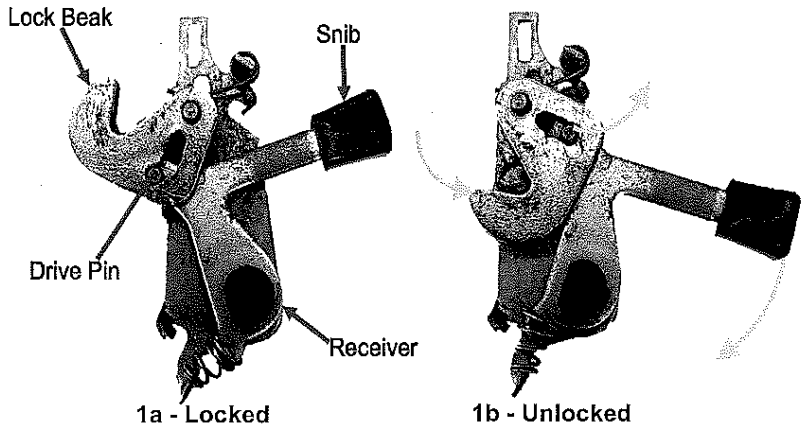


Figure 1. the Modline in both locking (1a) and unlocked position (1b)

[117] First, there is a snib with a base extending at right angles to the snib's lever arm into the mechanism. The end of the base of the snib is attached to the housing meaning that the snib arm will pivot. Second, at the end of the elbow on the snib arm, there is a pin. This is formed integrally with the snib arm, but protrudes upwards from the snib arm. Third, there is a receiver mounted at the base of the snib arm where the snib arm is attached to the housing. This receiver protrudes outwards and can only receive one tailbar. Fourth, there is a lock beak. The lock beak's base is wide. One corner of the base, below the tip of the lock beak, is attached to the housing so that the lock beak also pivots. Next to the pivoting part, the lock beak's base has a boomerang cut out.

[118] The lock functions through the interaction of the snib pin with the lock beak through the boomerang cut out. The pin fits inside the boomerang cut out. When the snib arm is rotated, the pin moves the lock beak to counter-rotate open or to close. The snib arm can be rotated by a person rotating the snib lever manually or by turning a key which turns the receiver. Because the receiver is connected to the snib arm, it turns the snib arm.

(b) The Astroline

[119] The Astroline used a slide plate that could move up and down (by hand) or be moved up or down (with a key) to move the locking mechanism. The lock beak is fixed to the slide plate so it would also move up or down, which enabled it to move from an unlocked position to a locked position. On a separate piece of hardware from the slide plate, there is a central rotating member or cam. This central member has a slot in the middle which could receive a tailbar. On one corner of the cam, and slightly out of a circular diameter, there is a raised upstand shaped in a V, and a pin on the top part of the apex of the V. The slide piece has a cut out on one side. The pin fits in this cut out. These various parts are shown below in Mr Weyermayr's Figure 2.

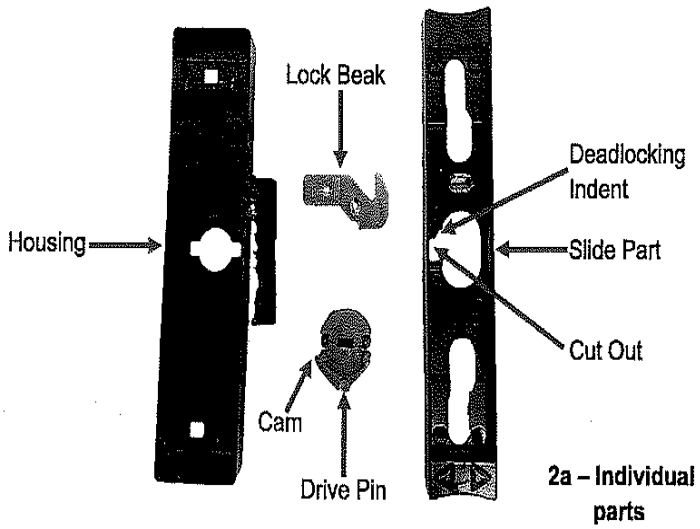


Figure 2: Parts in the Astroline isolated (2a) and put together (2b)

[120] When the key is turned, this turns the tailbar which is connected to the cam through the receiver. Turning the receiver rotates the cam, causing the pin to rotate. The pin is located in the cut out, and when it rotates clockwise or anticlockwise, it moves the slide piece (and with it the lock beak) up or down, depending on the rotation of the key.

[121] While the pin activates the mechanism when a key is used, when the slide piece is operated by hand, the slide piece is moved up or down by the external force and not by the pin. In such cases, the pin does not activate the mechanism but, instead, it is driven by the slide piece.

[122] In the deadlocking variant (but not in the others), a small indent is inserted on one side of the cut out, as shown in Figure 2 above. The indent means that if the pin was rotated over centre, it would move out of the main part of the cut out and into the indent. In this position, being off centre, the slide plate cannot be moved by pushing on either end of the slide plate. Any direct force on the slide plate causes the pin to run into the flat surface of the indent and this would prevent the pin from moving into the main part of the cut out. There is also a small clip spring at the base of the hardware that part of the cam could clip into which would further assist in deadlocking and provide a reassuring feel of deadlocking. In this position, the only way to get the pin out of the indent is to use a key to turn the tailbar which in turn would turn the cam and the drive pin.

[123] The unlocking, locking and deadlocked positions are shown in Figure 3 below. The easiest way to visualise the movement and position of the pin is to look at the tailbar slot in the cam and see its rotation change. The pin is perpendicular to the tailbar slot.

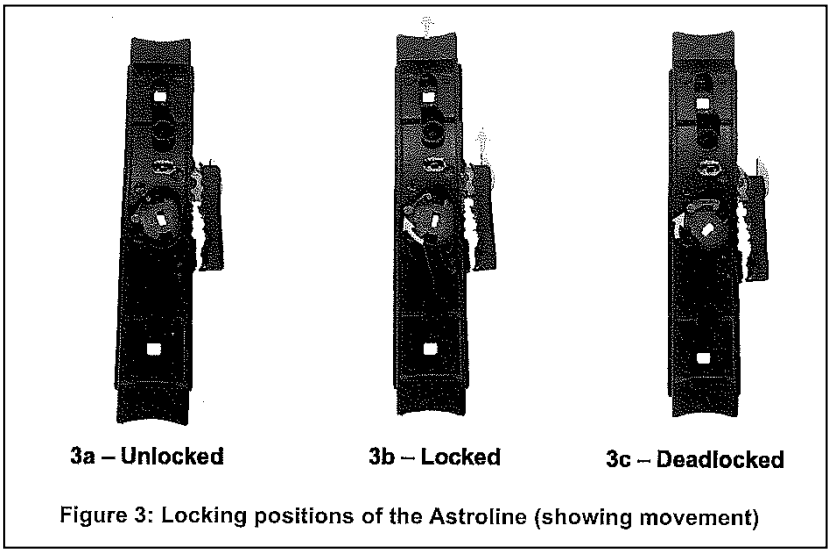


Figure 3: Locking positions of the Astroline (showing movement)

(c) The Lockwood Macquarie 900 series

[124] The Lockwood Macquarie 900 series ("the Lockwood") separates the snib and the locking cylinder. Each are located at either end of the lock. The snib has an internal round base with a pin located on the radius of the base. This can be seen in Figure 9 below. The cylinder also drives a round base with a pin located at the radius of the base. Figure 9 also shows that a plate connects these two pins, as well as pins for the lock arms. The plate is the crucial driving piece of the entire mechanism. The pins on the base of the snib and the lock cylinder rotate when the snib or cylinder is rotated. These interact with the plate through the cut outs. The rotation of either pin causes the plate to move vertically up or down depending on the direction of the rotation. The plate is connected to pins attached to the ends of the lock beaks and so this movement rotates the lock beaks causing them to move into and out of a locking position. Again, this is demonstrated in Figure 9 below.

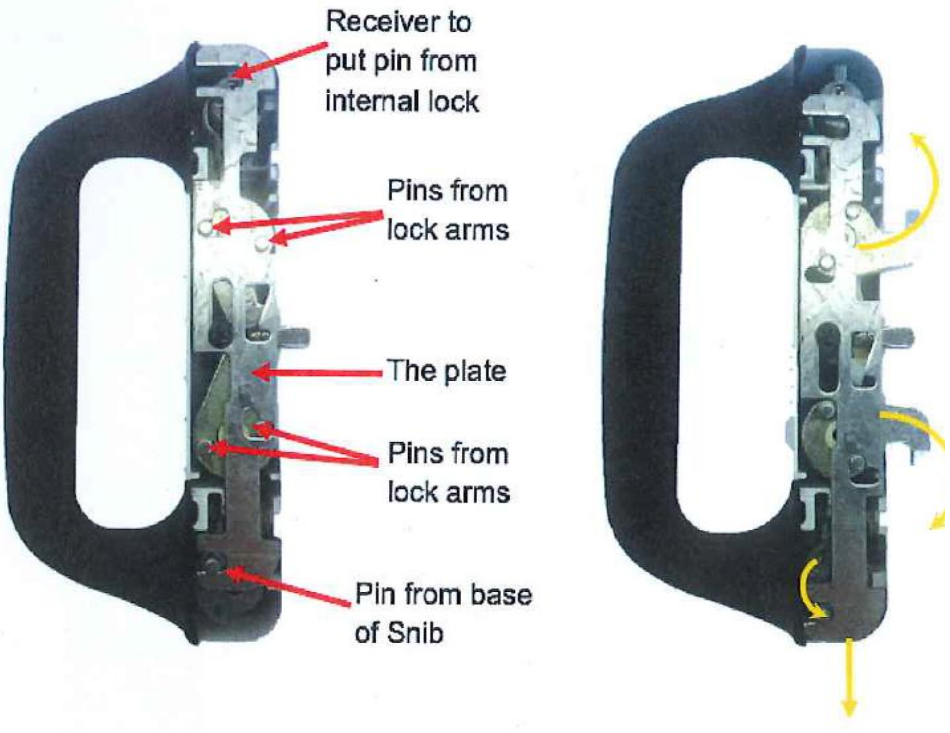


Figure 9: the movement of the plate and locking and unlocking

[125] The Lockwood achieves deadlocking by the pin on the end of the lock cylinder's base rotating over the centre at which point it is aligned vertically. Vertical

motion cannot dislodge the pin. Instead, rotational motion caused by the key is the only way that the pin can be re-centred and the plate can again become free to move.

(d) The Albany locks

[126] The non-deadlocking version of the Albany locks used a snib on the inside that had a square central member that passed through the square hole in the gear. The square central member could receive a tailbar from a lock cylinder enabling the key to move the gear and move the lock beaks from a locking position to an unlocked position. A side profile view of the snib shows the square central/drive member is shown in Figure 1 below:

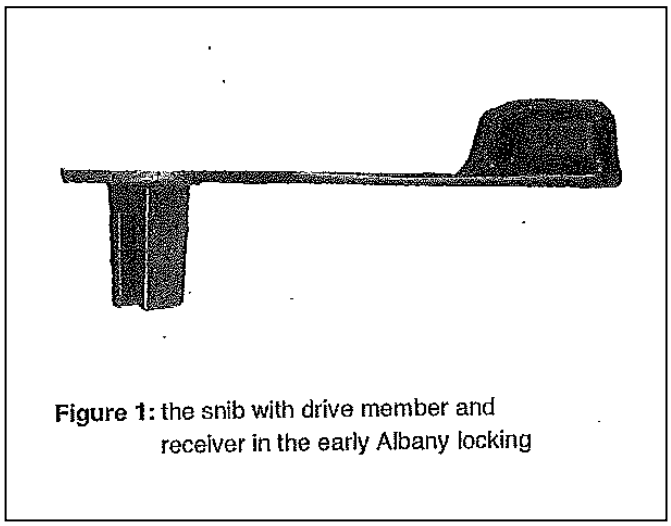
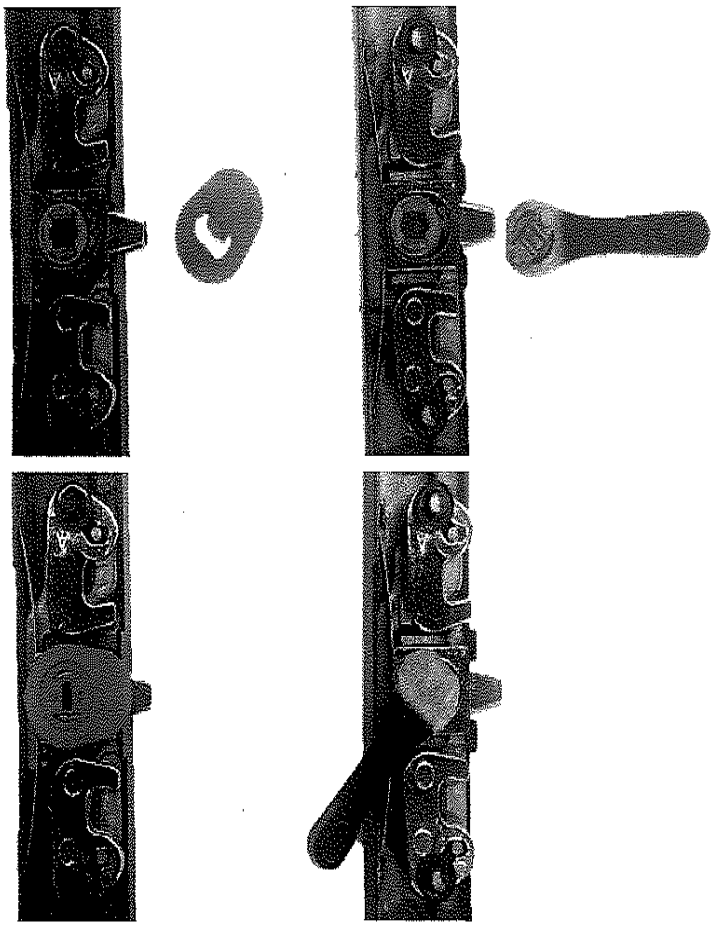


Figure 1: the snib with drive member and receiver in the early Albany locking

[127] The Albany with deadlock did not have a snib. It took two tailbars, one from inside the door and one from outside the door. The two tailbars went into a square cavity holder inside the gear and the tailbars could therefore be rotated. Figure 10 shows this difference between the deadlock and day latch versions.

[128] Both locks are surface locks and so the lock beaks, the gearing system and the internal gears are the same. In one, a snib is used, and the other, a receiver is inserted into the hollow square in the gear. This receiver can receive tailbars from both sides, whereas the snib only allows the tailbar to be received from one side.



10a – Deadlock version 10b – Daylatch version

Figure 10: comparing the Albany deadlock (10a) to the Albany daylatch (10b)

[129] There was also a mortised version (located within the door) of both. The mortised versions operated on the same principle as the surface versions, except that the lock mechanism (including the central gear) was in the door itself. For the Albany mortise daylatch, the only real difference from the surface version was that the snib had a longer drive member that ran into the central gear through the door. As with the surface version, this drive member had a hole in the middle to receive a tailbar from the exterior side. For the deadlock mortise version of the original Albany, there was no real difference from the surface variant because tailbars joined into the central part of the lock. All that was required was longer tailbars.

[130] Finally, I note that the early Albany deadlocking version, Astroline and the Sentry offered non locking, locking, double deadlocking and inside locking options.[58]

(e) A summary of the relevant common knowledge

[131] Given the prior art, the following five observations can be made.

[132] First, in concept, the full range of then locking options was known. As Mr Sadgrove stated, the Sentry achieved these options in a very rudimentary way and an earlier version of the Albany lock achieved an improvement in terms of accommodating pin lock cylinders. Mr Sadgrove also appeared to accept that adding a pin cylinder to the Sentry could have been achieved by a competent locksmith without apparent difficulty. Mr Weyermayr also accepted that the Sentry, Modline and Astroline provided all of the locking options offered by the Latch, and the Albany locks provided lock cylinders on both sides of the door, including a five-pin lock cylinder.

[133] Second, the snib version of the early Albany versions had a drive member rotatable by the snib about a first axis, extending into the gear set.

[134] Third, a receiver to receive a tail bar of a lock bar was known.

[135] Fourth, the Sentry used a lock hook or pawl, like a lock bolt, to lock the snib.

[136] Fifth, the snib and the receiver (cam/cap) of the Sentry moved co-axially, that is, on the same axis.

Step 3: Are there any differences between the prior knowledge and the invention?

[137] Mr Elliott referred in closing to Mr Sadgrove's itemisation of the differences. Mr Sadgrove observed (and was not cross examined on these matters) that (in italics): [59]

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[58] The Modline did not offer an inside deadlocking option.

[59] These are the inventive aspects highlighted by Assa Abloy in closing.

(a) *Coupling the drive member to the snib and using the snib to directly rotate the drive member was not part of the common knowledge*.

This is not easily reconcilable with Mr Cherry's evidence or Mr Weyermayr's description of the snib version of Albany surface lock: that extending from the snib is a square shaped member that drives the locking mechanism. The mortised version of the original Albany lock had a longer drive member that ran into the central gear and could also receive a tailbar to enable key driven locking and unlocking. The key difference, however, is that the drive member of the Albany (and the Sentry) is integrally formed, not coupled.

(b) *A receiver to receive a tailbar of a lock cylinder was not generally known*

This is not supported by the evidence as a whole, and, in any event, would not have been a material difference to a skilled addressee, especially given the use of a receiver/tailbar in the popular Sentry and Mr Sadgrove's concession that adding a pin cylinder to the Sentry could have been achieved without difficulty.

(c) *I cannot think of another mechanism with two separate receiving areas for two tailbars*

No lock or latching mechanism was identified with this specific feature. The Sentry had two receiving areas but only one received a tailbar from the key. The Albany also employed two tailbars, but not a dual receiver with two separate receiving areas. Mr Baber opined that a lock mechanism with a deadbolt system and with two cylinders would have had this feature. He refers to a publication dated 2013. Mr Sadgrove responds that this feature was not common knowledge as at 2000, having examined the locks referred to by Mr Baber. Mr Sadgrove was not cross-examined on this point. I prefer Mr Sadgrove's assessment.

(d) *Arranging a receiver and a selector so that they can turn co-axially was not known*

This conclusion is not consistent with the totality of the evidence, in particular in relation to the Sentry – see [94]-[98] above.[60]

(e) *A spring to influence a lock bolt was not part of the common knowledge*

Again, this conclusion is not consistent with the totality of the evidence, including in relation to the Sentry – [94]-[98] above.

Summary of differences

[138] From this survey, the full range of then locking options was known, but two integers of Claim 18 emerge as different from the prior art, namely coupling the driver to the snib and the dual receiving area with back-to-back tailbars. But the "*driver* coupled with *the snib*" and "Receiver with two angular *receiving areas* each configured to receive a *tail bar* and lock cylinder" are self evidently combinations of known art.

Is the Latch a combination of known art?

[139] All of the Claim 18 integers can be found in the known art, either as individual elements or combinations of known elements.

What is the effect of the combination (if any)?

[140] The particular configurability of the Latch to a wide range of lock sets marked a material improvement on the status quo. Mr Baber accepted that there were no locks on the market with a combination of day latching, deadlocking, counter-rotating beaks, five pin lock cylinders and the ability to work in a mortice and

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[60] It might be said that selector/receiver co-axiality is different from receiver/drive member co-axiality, the latter being the focal point of expert debate. On my analysis the difference if any is moot because the functional output is no different.

surface configuration. He also agreed that the Sentry could not be configured to a rack and pinion without redesign. As noted by Mr Waitai, the coupling of the snib and driver was central to enabling the adjustment of the length of the driver so as to make the latch mechanism configurable to doors of varying width. The dual/separate angular receiving areas with back-to-back tailbars enhanced the ability to configure the Latch to five pin lock cylinders on both sides of the door. The "coaxial" arrangement of the daylatching and deadlocking then advanced the state of the art in terms of resolving the problem of driving a mortice and/or surface lockset independently of rotating the external lock cylinder and daylatch function. In the result, the configurability improvement arises from the unheralded interaction of (un)coupling the driver and snib and the dual yet separate receiver mechanism, together with a particular improved form of co-axiality, not simply from the usual performance of the known elements. As Mr Sadgrove stated, this configurability outcome reflects the effect of combining the elements in a particular, new way, rather than simply being the product of each element performing its usual task. This takes the Latch outside the class of combination identified by Gault J in *Lucas v Peterson*[61] and Lord Hoffmann in *Sabaf SpA v MFI Furniture Centres*,[62] which involved the use of known elements without synergistic interaction.

The Latch and the chair

[141] Mr Miles emphasised that the Latch was not inventive by analogy to the humble chair. He invited me to suppose that a person had decided to produce a new chair out of a series of complex and odd integers. He said that the building of a chair in this new way is not inventive – it is still simply a chair and it performs the function of a chair. It has not advanced the state of knowledge in relation to chairs. Similarly, the Latch, he says, with its multiple locking functionality, is still simply a latching mechanism doing what it always does. But, with respect to this analogue, the fallacy in the comparison rests with the definition of the object and the inventive response. In this case the object is not simply to design a latching mechanism with all locking options. The object identified in the patent is "to provide a latching mechanism which can be configured to suit end use requirements". The specified

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61 Above n 7.
62 Above n 33.

advantage is "to configure the door lock to one of the locking options above alteration to furniture is all that is required."[63] The inventiveness, therefore, is not that the Latch achieves a locking mechanism with a full set of locking options, but that it is a latch which is configurable to the full range of lock sets which previously had not been achieved (as effectively conceded by Mr Baber). In this sense there is a clear difference between the Latch and the prior art.

[142] Having identified the new and different elements and their synergistic effect, I turn to the final *Windsurfer* step.

Step 4: is the difference between the inventive step and the prior art obvious to the skilled person?

(a) Submissions

[143] Mr Elliott contended that when looking at a combination of prior lock arts, the Court needs to carefully examine any claims that the skilled person would combine them. He refers to the unlikelihood of a skilled addressee transforming the obsolete Sentry into the sophisticated Latch – noting that Mr Baber could not explain why a skilled addressee would do so, and that it is pure speculation to suggest that the Sentry pointed to the solution to the problem of configurability. He submitted that the Latch provides a new synergistic effect which had not been articulated previously and that the whole concept of co-axiality represented a significant shift, not a mere incremental improvement.

[144] Mr Miles did not dwell long on obviousness in closing, submitting that it is difficult to do so given that the Latch simply combines known art. He said that the new elements comprise obvious additions to the existing art (without citing evidence):

(a) the two receiving areas simply involved replicating existing art on either side of the door; and

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[63] A point accepted by Mr Halliday in cross examination.

(b) have a drive portion on the snib handle like the Albany.

(b) Discussion

[145] There is in fact a paucity of evidence suggesting that the new element combinations, or the Latch as a whole, would have been obvious to the skilled addressee. Mr Baber's evidence largely focused on whether it would have been inventive to include daylatching and deadlocking within the same hardware. I agree with Mr Elliott that this focus was misdirected. Mr Halliday observed under cross-examination that the Latch was an improved latching mechanism but it had "morphed" and "taken pieces of other latches and bolts, put them all together" in a "natural progression". He nevertheless appeared to accept that to achieve configurability to multipoint locksets would require more work than in general and need some time. This concession coincides with the general tenor of Mr Sadgrove's evidence that the Latch was different and inventive. As he put it:

> A. It certainly works. I'm not a designer or an engineer, it's not something – I don't think I could've come up with. At that time when I first saw it I thought it was a very clever idea to the way it was incorporated and yet independent and the way it could be configured to do various things within different locks in the future. So yeah, it was clever, yes.

[146] Overall I prefer Mr Sadgrove's evidence on this issue. He is skilled in the art of lock-smithing but is not an inventor, in contrast to Messrs Baber and Halliday. With the benefit of hindsight and through the lens of a highly inventive expert the specific new elements appear to be a "natural progression" (especially from the early Albany versions), but I am not satisfied that the particular combination of the prior lock art (including the variants on prior art specially relating to the coupling of the driver to the snib and the back-to-back tailbars) would have been obvious to the skilled addressee. It marked a significant improvement on the status quo that, as Mr Sadgrove aptly observed, was very clever.

[147] Given the dearth of evidence as to the obviousness of the Latch as a whole and the inventive elements identified, I am not satisfied that either Claim 18 or any of the new combinations would have been obvious.

Conclusion on obviousness

[148] Having completed my review based on the combination principle in *Sabaf SpA* and the four *Windsurfer* steps I have concluded that, viewed without knowledge of the alleged invention as claimed, the differences between the prior art and the Latch constitute steps which would not have been obvious to the person skilled in the art.

The internal grounds: lack of fair basis, insufficiency and inutility

[149] The internal grounds received sparse attention in the hearing and I am content to deal with them summarily.

[150] Allegion claims, in short:

(a) The Claims lack fair and sufficient basis because they are wider than the patentee's actual inventive disclosure;

(b) The Claims do not usefully address an identified problem.

Lack of fair basis

[151] Allegion's complaint appears to rest on interpreting the key elements of the patentee's disclosure disjunctively and broadly. The object is clearly stated (as explained at [33]–[44]), as are the key inventive steps (as noted at [107]–[114]). Together they provide a firm and clear anchor for the scope of the disclosure, as my findings at [70]–[73] regarding infringement reveal. In summary, the Patent discloses a specific form of latching mechanism which can be configured to suit end-use requirements. There is no overreaching.

Insufficiency

[152] Allegion argued that there was no sufficient basis for the unimaginative skilled addressee to read the patent and arrive at the Stella without infringement. But, as my findings dealing with infringement illustrate (and in particular dealing with the coupling of the driver to the snib), this argument fails because of the precision of the language used by Claim 18 in light of the object of the patent. In short, the configurability object is only achieved in the precisely described way. Furthermore, I am not persuaded that the skilled person would have difficulty making a latching mechanism according to the description in patent. In closing, Mr Miles made the submission that the patent did not disclose important teachings, such as the method by which the selector and receiver must be constructed. But Allegion's key witness on this point, Mr Halliday, gave evidence that "the patent does give enough information for someone skilled in latching mechanisms to produce the same product shown in the drawings".

Inutility

[153] As to inutility, my discussion on the object at [33]-[44], and Mr Baber's concession as to the utility of the Latch dispenses with this complaint. Claim 18 represents a product which delivers on the promise of a latching mechanism configurable to end-use requirements.

Outcome

[154] In this Judgment I have reached the following conclusions:

(a) The Stella does not infringe the Latch Patent. The Stella does not contain a driver coupled to a snib.

(b) The Latch is not invalid. The Latch is novel, not obvious, not unfairly or insufficiently disclosed or lacking utility.

[155] In summary, the infringement and invalidity claims are premised on a monopoly that does not conform to the Patent's terms. The infringement claim

assumes that the Stella involves a latching mechanism configurable to end uses. But the Stella does not achieve that object and in a material respect does not contain the requisite integer necessary to do so, namely a driver coupled to the snib. Conversely, the invalidity claim erroneously assumes that the object of the Patent is simply to achieve a latching mechanism with all locking options, an outcome already achieved by the Sentry and other latch mechanisms. Once the object is properly defined as one of configurability to end uses, which was not achieved by the prior art, the invalidity challenge falls away.

Costs

[156] The parties have leave to file submissions on costs, no more than 5 pages in length, within ten working days.

SCHEDULE 1: THE LATCH

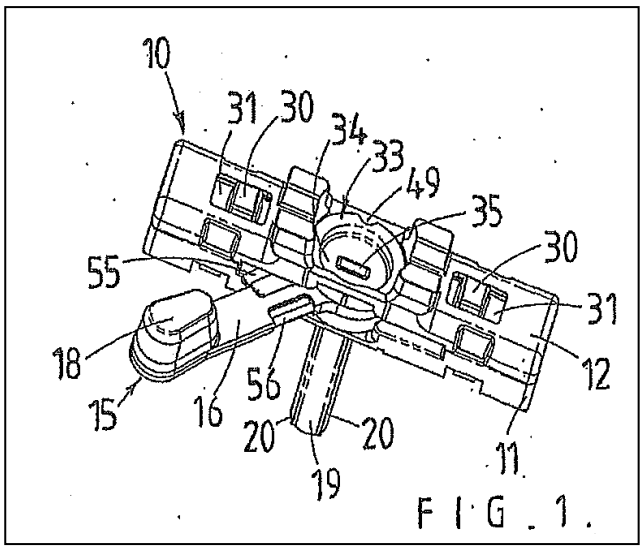

FIG. 1.

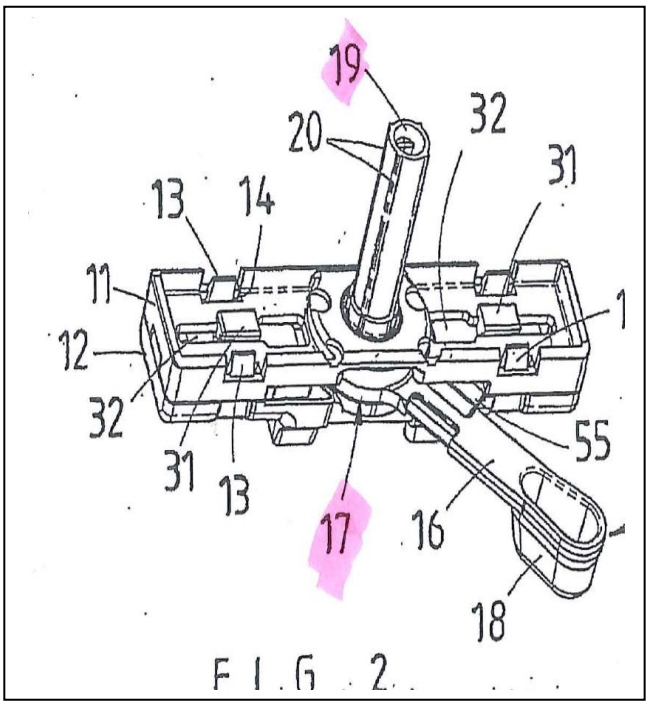

FIG. 2.

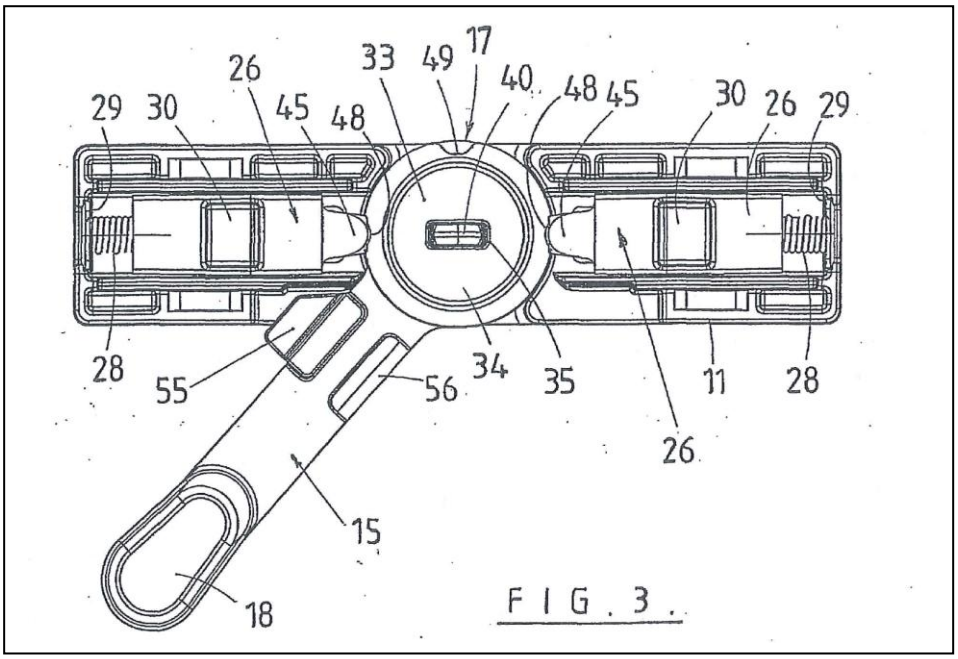
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FIG. 3.

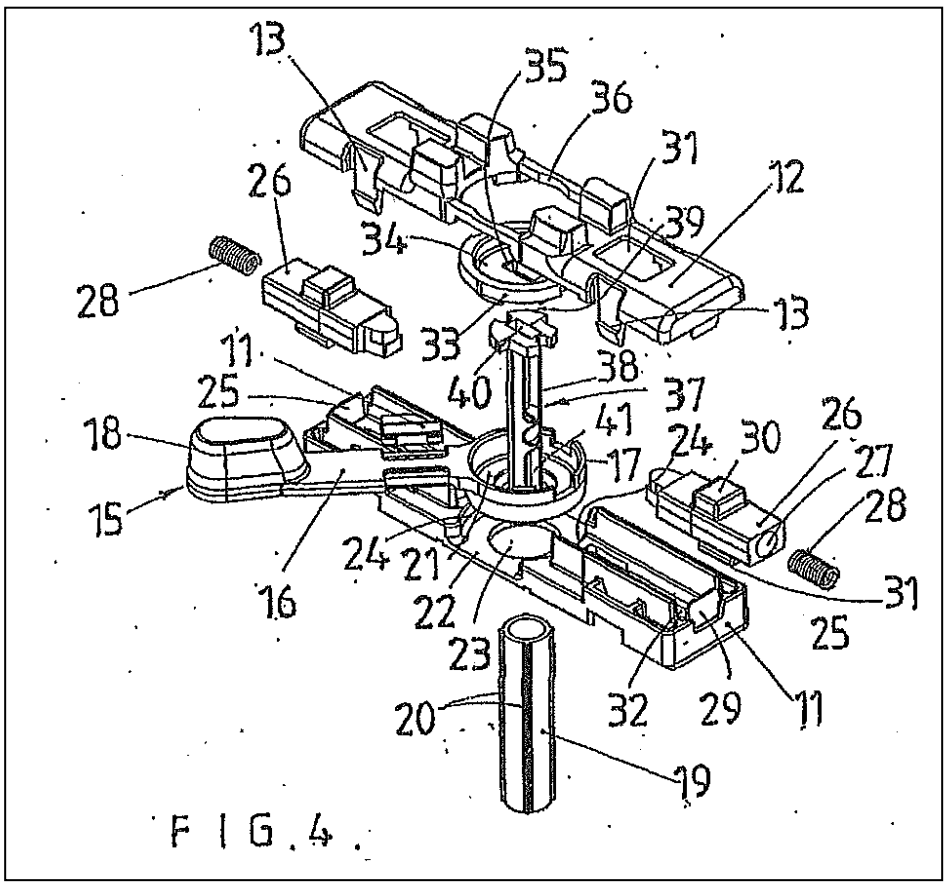
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FIG. 4.

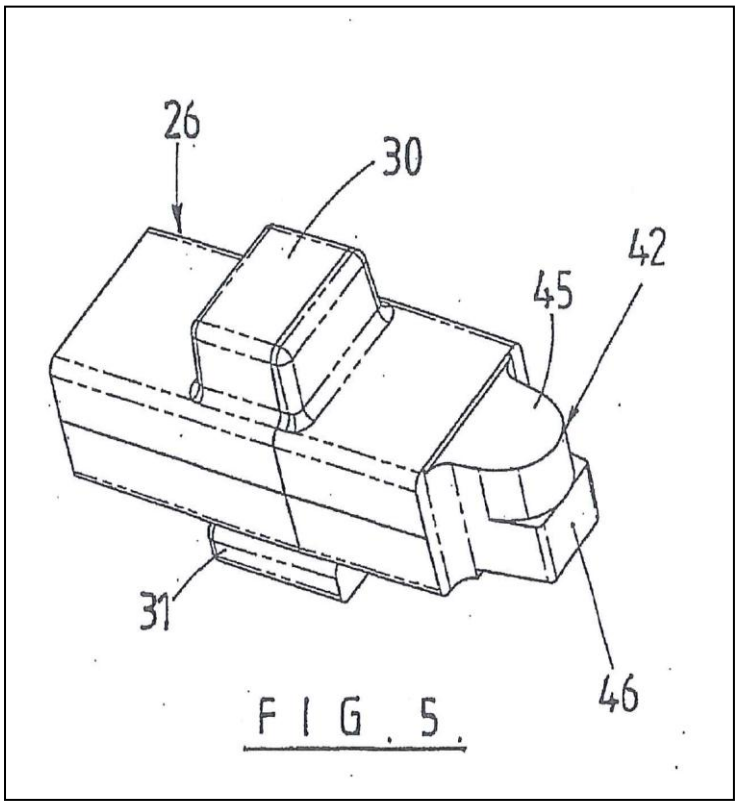
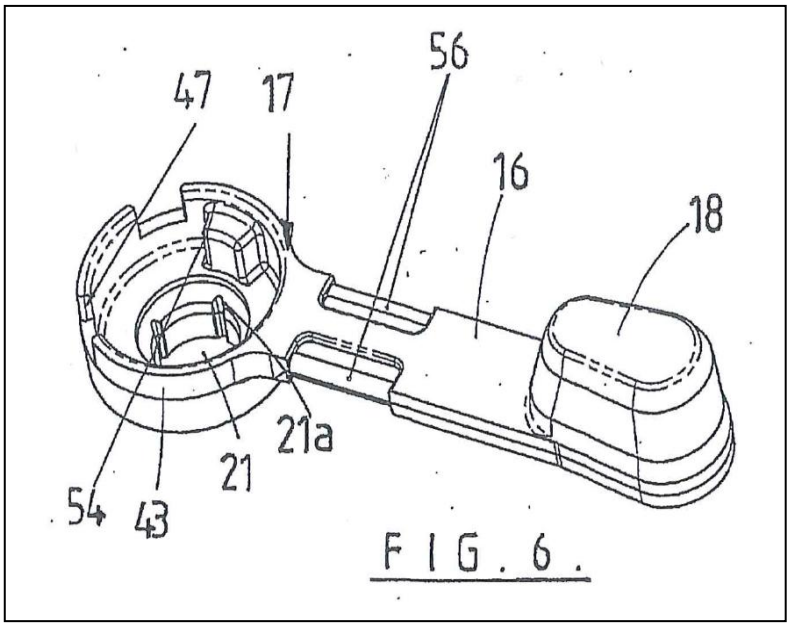


FIG. 5.



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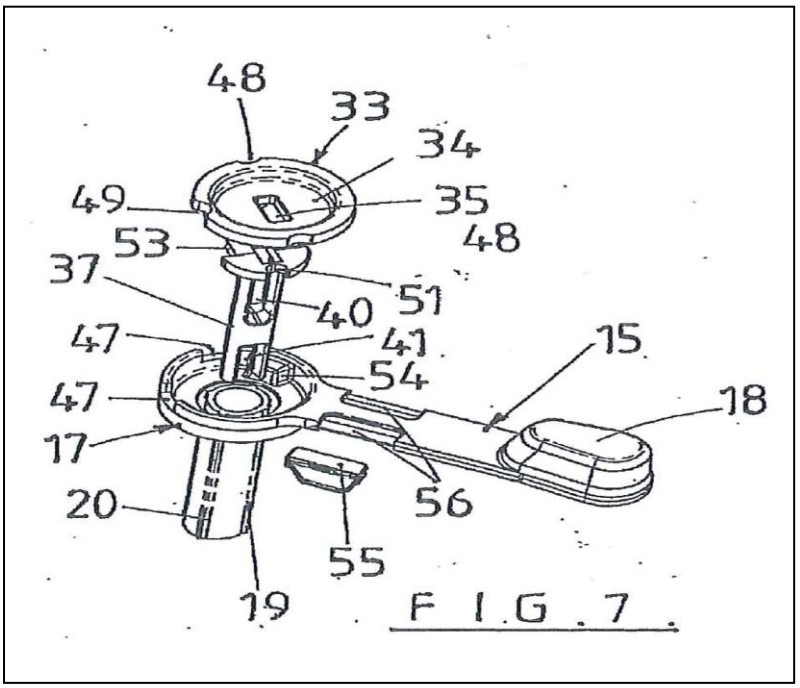
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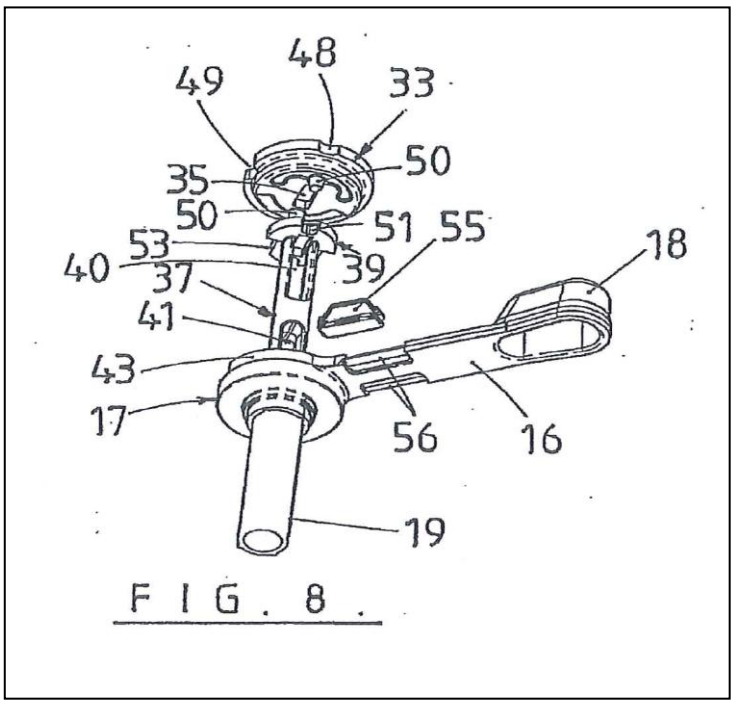
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FIG. 8.

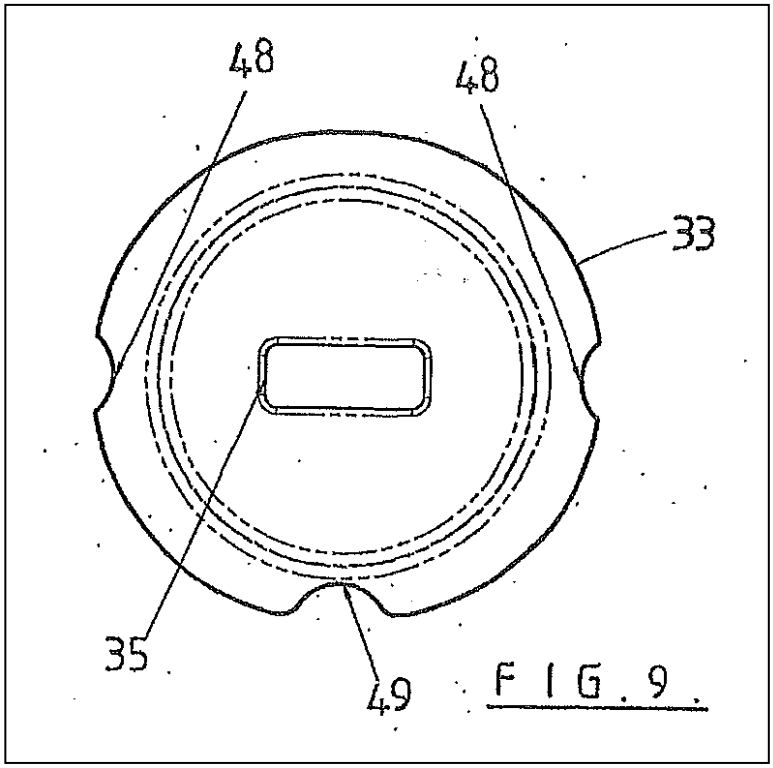

FIG. 9.

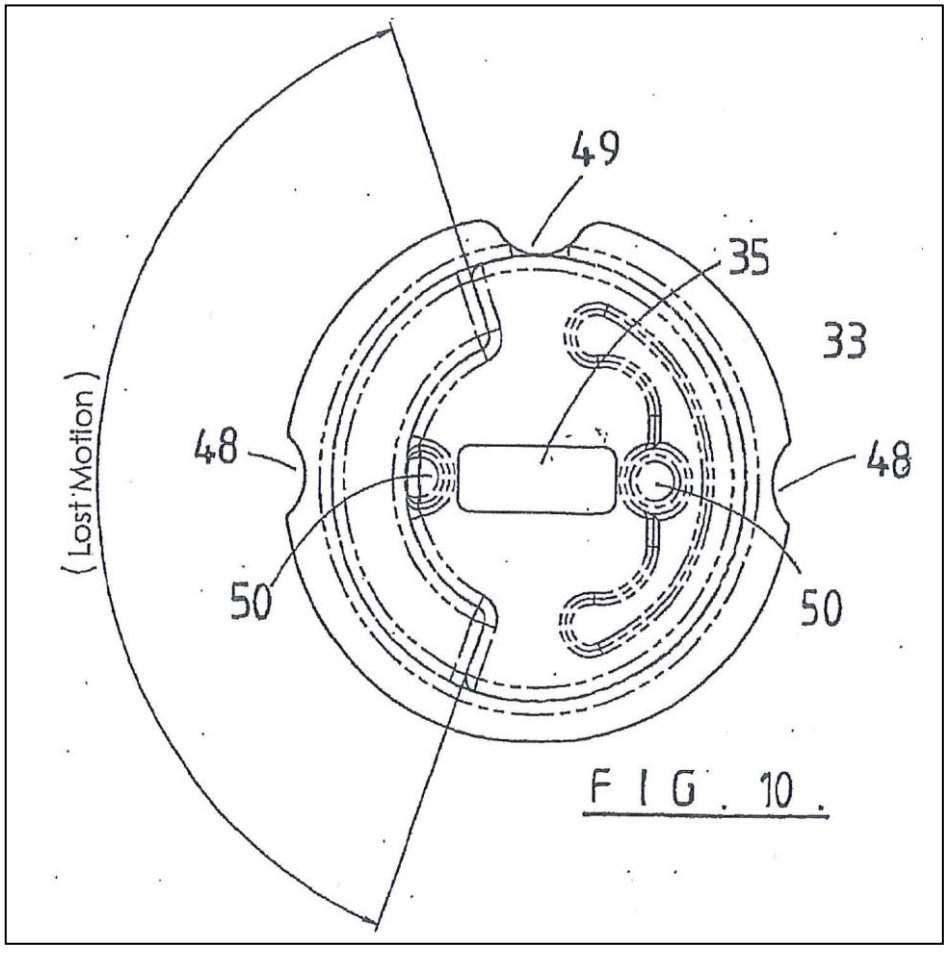

FIG. 10.

SCHEDULE 2: THE STELLA

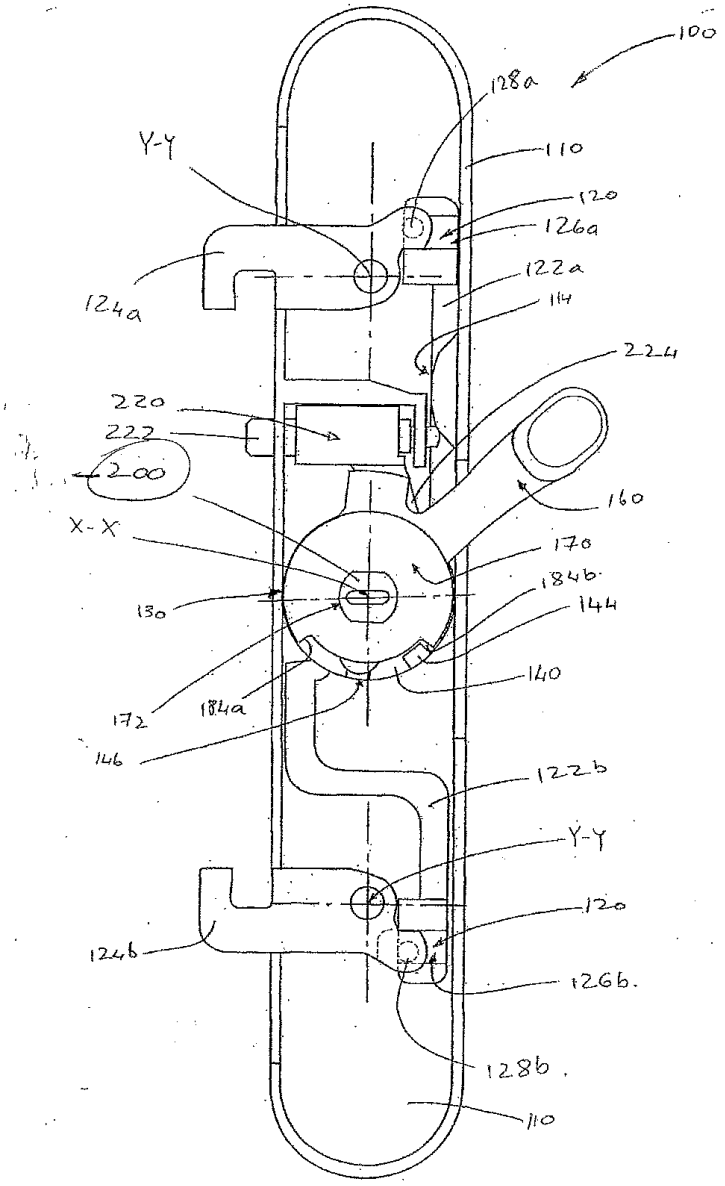

FIGURE 1

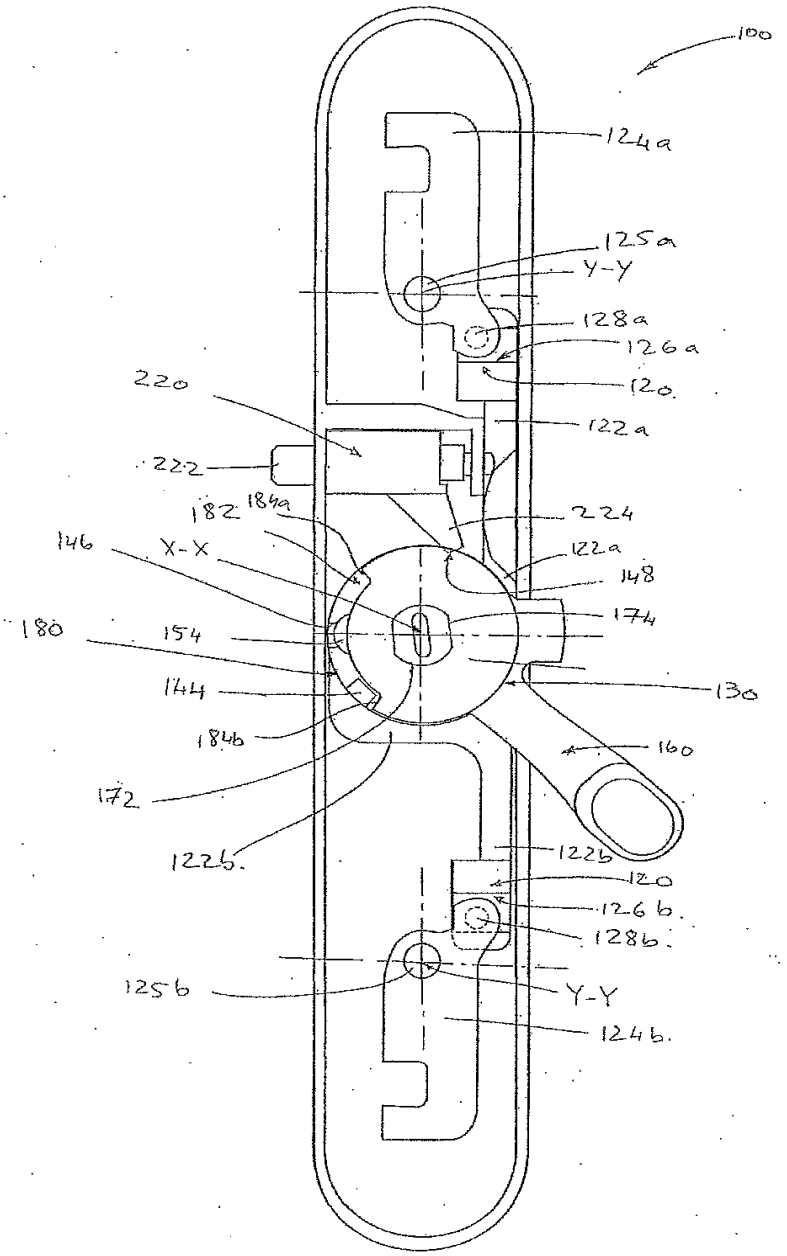
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FIGURE 2

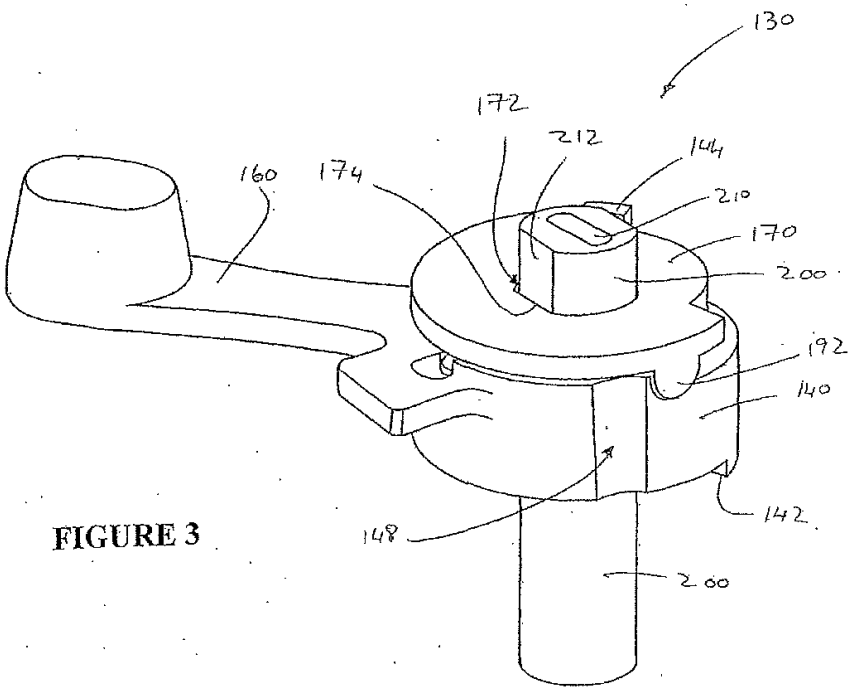
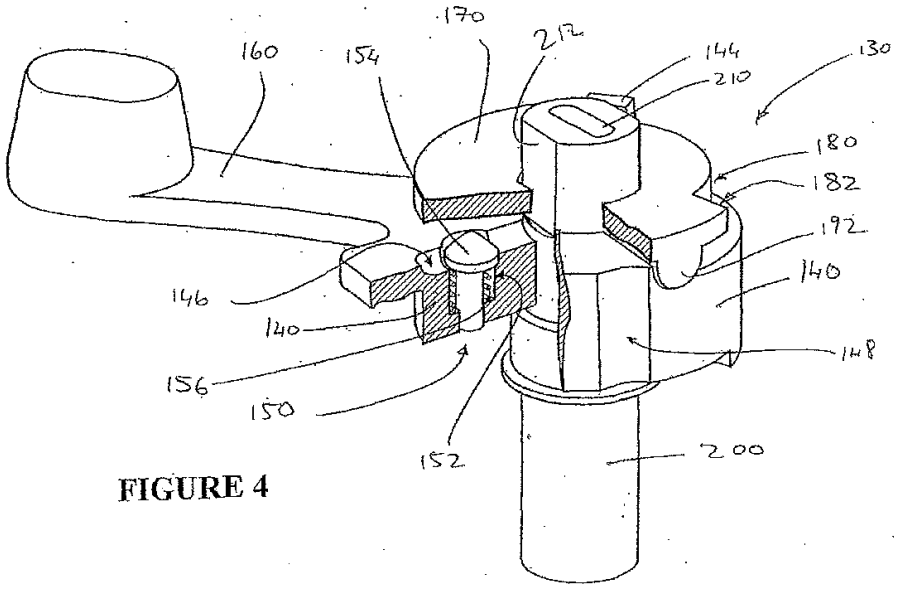


FIGURE 3



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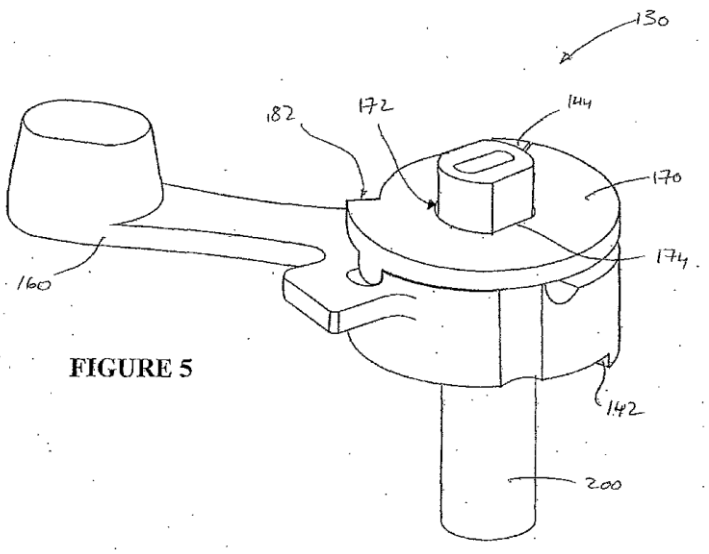

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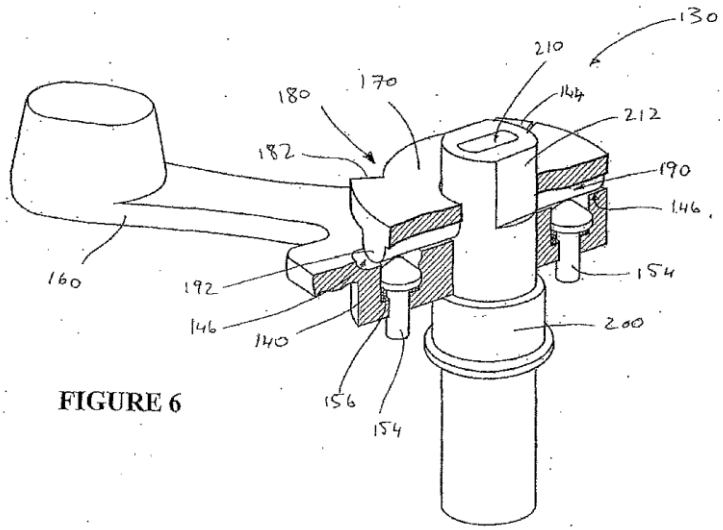

FIGURE 6

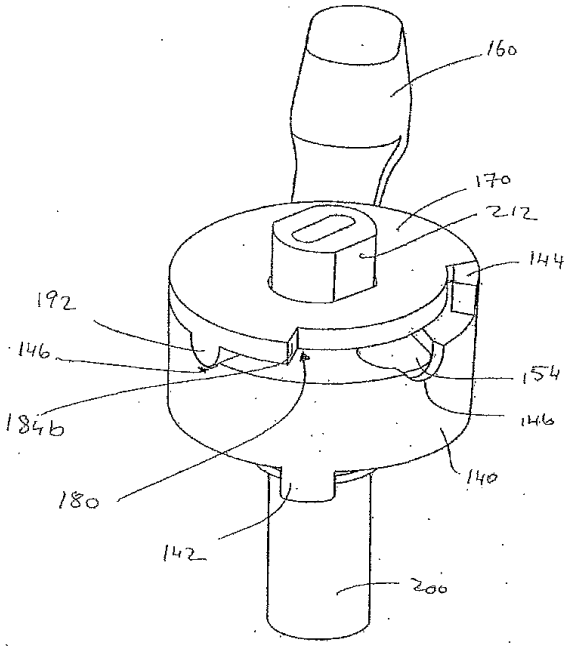

FIGURE 7

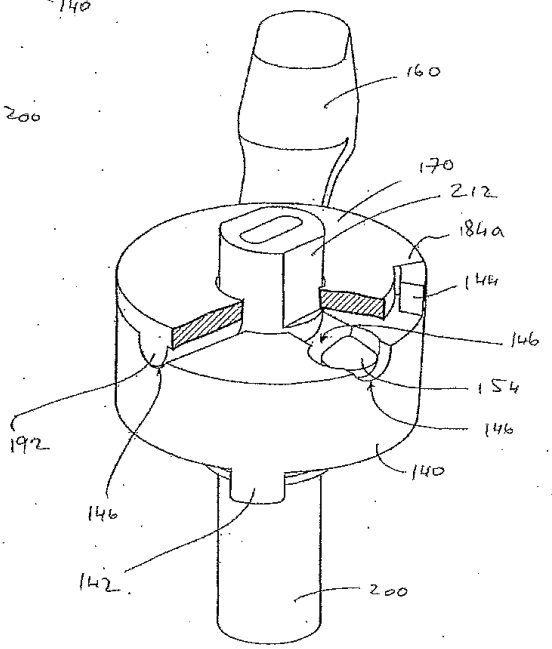

FIGURE 8

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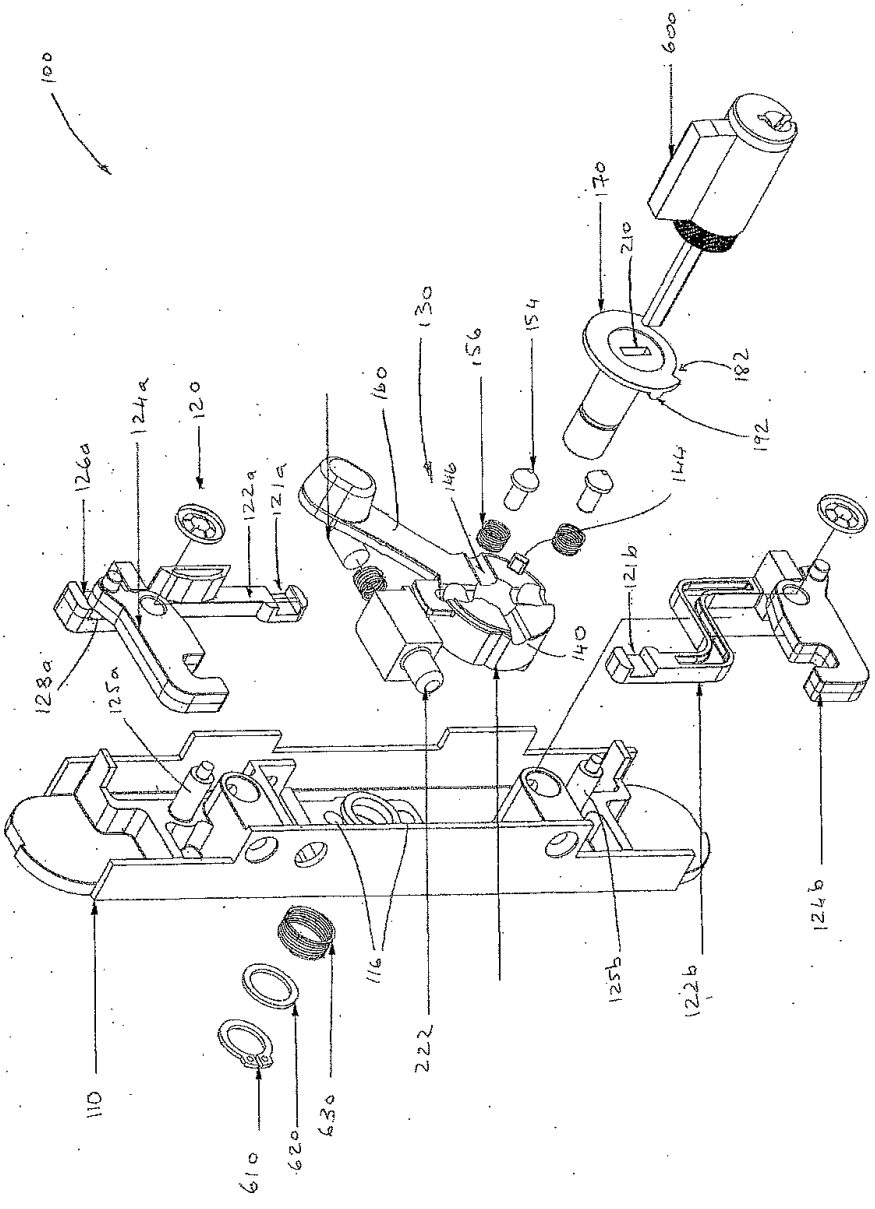
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