* **IN THE HIGH COURT OF DELHI AT NEW DELHI**

% Judgment delivered on: 24.11.2025

\+ **C.A.(COMM.IPD-PAT) 162/2022**

TRIDENT LIMITED .....Appellant

versus

CONTROLLER OF PATENTS .....Respondent

Advocates who appeared in this case

For the Appellant : Mr. Nitin Masilamani, Mr. Amritanshu Jha and Mr. Amit Singh, Advocates.

For the Respondent : Ms. Rupali Bandhopadhya, Mr. Abhijeet Kumar and Ms. A. Gupta, Advocates.

CORAM:
HON'BLE MR. JUSTICE TEJAS KARIA

O R D E R

% 11.08.2025

INTRODUCTION

1. The present Appeal has been filed against an order dated 05.01.2021 ("**Impugned Order**") issued by the Assistant Controller of Patents and Designs, Delhi ("**Respondent / Controller**") under Section 15 of the Patents

Act, 1970 ("**Act**"), in respect of Indian Patent Application No. 1867/DEL/2010 ("**Subject Application**").

FACTUAL MATRIX

2. The Appellant, *Trident Limited*, is a company incorporated under the Companies Act, 1956 and is part of the *Trident Group*, a leading diversified group of businesses headquartered in Ludhiana, Punjab. The Appellant is a leading manufacturer of yarn, bath linen, bed linen, wheat straw-based paper chemicals, and captive power. The Appellant has state-of-the-art manufacturing facilities in Barnala, Punjab and Budni, Madhya Pradesh.

3. The Appellant filed an Application for the grant of Patent on 24.09.2010, by way of this Subject Application. The Application was originally titled "*Air Rich Yarn and Fabric and its Method of Manufacturing*".

4. The Patent Office initiated examination of the Subject Application and issued a First Examination Report dated 21.06.2018 ("**FER**"). The Appellant submitted its response to the FER by way of a letter dated 20.12.2018 ("**Reply**").

5. The Patent Office considered the Appellant's Reply and issued a hearing notice dated 10.07.2020. The Appellant attended the hearing held *via* video conferencing and submitted its written submissions in respect of the hearing on 24.08.2020.

6. The Patent Office further issued a second hearing notice dated 05.10.2020. The Appellant attended the hearing held *via* video conferencing and submitted its written submissions in respect of the hearing on 13.11.2020.

7. The Respondent thereafter considered the Subject Application and issued the Impugned Order refusing the Subject Application.

SUBMISSIONS ON BEHALF OF THE APPELLANT

8. The learned Counsel for the Appellant submitted that the invention claimed in the Subject Application relates to novel air rich fabric / yarns with pores throughout the cross-section and processes for making an air rich fabric. The objective of the claimed invention is to provide fabrics, which are highly wettable, easily dryable, quick absorbing, and thicker. The claimed invention also discloses terry fabrics that can absorb about 75% to 100% of water contacting them and dry with a drying rate 10% to 30% faster than normal fabric. The claimed invention achieves this by disclosing fabric made from yarn that is manufactured using base material fibres that are arranged to form pores there between, such that the pores in the yarn are distributed homogenously across the radial cross-section of the yarn.

9. The learned Counsel for the Appellant submitted that Claims 2 to 7 are dependent on Claim 1.

10. The learned Counsel for the Appellant submitted that there are two corresponding patents granted to the Appellant by the US Patent Office, as US 10,196,763B2 and by the European Patent Office ("**EPO**"), as EP2434035 in European Patent Application No. 11182724.2.

11. The learned Counsel for the Appellant further submitted that the homogenous distribution of pores across the radial cross section of the yarn is achieved by:

a. first forming blended slivers comprising the base material fibres and water-soluble material slivers, wherein:
    i. The weight of the water-soluble material slivers is between 8% to 25% of the weight of the yarn, and

ii. the base material fibres and water-soluble material fibres are blended homogenously across the radial direction within the blended slivers,

b. spinning roving that comprises the blended slivers, to form the yarn, and

c. weaving or knitting the fabric using the yarn, and treating the fabric with water to dissolve water soluble material from the fabric, such that the yarn within the fabric has through pores formed between the base material fibres, and said through pores are homogenously distributed across the radial cross section of said yarn.

12. The learned Counsel for the Appellant contended that the basis for the Respondent's Impugned Order, refusing to grant a patent on the Subject Application under Section 2(1)(j) of the Act, is a finding that the claimed invention lacks inventive step. A finding that a claimed invention either lacks novelty or inventive step, requires that all features recited in the claims be disclosed in a single prior art reference or in a combination of analogous prior art references. However, the prior art references cited and relied on in the Impugned Order do not disclose all of the features of Claim 1 when read by themselves, and also when read in combination with the others.

13. It was argued by the learned Counsel for the Appellant that none of the cited prior art references disclose a yarn having a uniform distribution of pores across a radial cross-section of the yarn. Nowhere in the Impugned Order has the Respondent presented or indicated any portion of any of the prior art references EP2172583B1 ("**D1**"), WO2009/098583A1 ("**D2**"), JPH05117966A ("**D3**") and JPS60119247 ("**D4**") that disclose this feature.

14. The learned Counsel for the Appellant further submitted that the D1 reference does not teach the critical limitation of radially homogenous pores distributed within a yarn. Since the Respondent is unable to identify any prior art that teaches this feature, the Respondent has tried to rely on the reasoning that since the D1 reference allegedly teaches the same manufacturing steps as those that are disclosed in the Appellant's specification, following the steps of D1 would necessarily result in the same product that is claimed by the Appellant i.e., a yarn / fabric having pores that are distributed radially homogenously. The learned Counsel for the Appellant further submitted that this reasoning is wilfully erroneous and has only been adopted with a view to support the Respondent's prejudged conclusion that the claimed invention is allegedly lacking any inventive step.

15. The learned Counsel for the Appellant submitted that the fundamental basis of the Respondent's reliance on D1 is that if two processes of manufacture are identical, the two resulting products will also be identical. Thereafter, even though none of D1 to D4 teach the feature of radially homogenously distributed pore structures within a yarn, the Respondent nevertheless concludes that the methods of D1 are the same as the method of the claimed invention, and that therefore, D1 will necessarily result in the same product as claimed by the Appellant.

16. The learned Counsel for the Appellant further submitted that in the present case, the methods of the revised claims are different from D1 since the weight ratios of water-soluble fibre to the weight of the blended yarn are completely different. Since D1 does not provide any teaching that the resulting yarns would have a radially homogenous pore structure, there is absolutely no evidence or reason to believe that by changing the steps of D1

to have the same weight ratios recited in Claim 1, would result in yarns and fabrics having radially homogenous pore structures.

17. The learned Counsel for the Appellant submitted that the D2 reference also does not provide any disclosure of a yarn having a radially homogenous pore structure. Additionally, the D2 reference does not teach the various method steps of the claimed invention. Therefore, even combining the teachings of D2 with D1 or any of the other references cannot be understood to teach the limitations of the revised claims.

18. The learned Counsel for the Appellant submitted that the since D2 does not provide any teaching of a yarn having pores distributed homogenously across a radial cross section, and since this feature is also not taught by D1, there is absolutely no basis for the Respondent's conclusion that combining the percentage of water soluble fibres that are taught in D2, with the method steps of D1 would result in the claimed yarn having pores distributed homogenously across a radial cross section.

19. The learned Counsel for the Appellant submitted that the documents D3 and D4 also do not provide any disclosure of a yarn having a radially homogenous pore structure. Additionally, the D3 does not teach the various method steps of the claimed invention. Therefore, even combining the teachings of D3 and D4 with D1 or any of the other references cannot be understood to teach the limitations of the revised claims.

20. The learned Counsel for the Appellant submitted that the since D3 and D4 does not provide any teaching of a yarn having pores distributed homogenously across a radial cross-section, and since this feature is also not taught by D1, there is absolutely no basis for the Respondent's conclusion that combining the percentage of water soluble fibres that are taught in D3 and

D4, with the method steps of D1 would result in the claimed yarn having pores distributed homogenously across a radial cross-section.

21. The learned Counsel for the Appellant submitted that the Respondent's reliance on D1 to D4 as disclosing "overlapping ranges" is incorrect as these wide ranges of water soluble fibres that are disclosed in D1 to D4 would be insufficient to lead the person skilled in the art ("**PSITA**") towards the claimed invention recited in Claims 1 and 8 for the reason that the cited prior art documents provides no reference that would lead the PSITA to select the weight of the water soluble fibre as being between 8% and 25% of total weight of the blended yarn.

22. The learned Counsel for the Appellant further submitted that the feature that is recited in the claims is that the pores that are formed between the base material slivers are homogenously distributed. The Respondent's finding that "*a homogenous distribution of fibres along the radial cross section of the yarn is the ultimate goal for any blending of fibres*" is, therefore, not only misleading, but is completely the wrong test to apply simply because the Appellant's claimed invention is directed towards homogenous distribution of pores between fibres and not towards homogenous distribution of fibres.

23. The learned Counsel for the Appellant placed reliance upon a publication dated 12.04.2011 titled as "*Technology of Short Staple Spinning: Blow Room to Ring Frame Basics*" ("**Publication**") which demonstrates that the natural expectation of the PSITA when blending two or more fibre types is unevenness in the final yarn structure as a result of blending two different types of fibres, for example because non-homogenous characteristics of the fibres results in non-homogenous characteristics in the end-product i.e., in the yarn. Further, the Publication mentions that in blending processes, fine fibres

accumulate in the yarn core, while coarser fibres (such as cotton fibres or non-water-soluble fibres) accumulate at the periphery of the yarn.

24. The learned Counsel for the Appellant further submitted that during processing, the PVA fibres being finer than conventional natural fibres / base material fibres, would migrate to the centre of the yarn, leading to a centralized distribution of pores towards the centre of the yarn, while the coarser base material fibres would be concentrated towards the periphery of the yarn and overall, this would result in a definitely non-homogenous distribution of the water soluble fibres (and resulting pores) across a radial cross-section of the resulting yarn. Hence, the natural expectation for conventional blending of PVA water soluble fibres and a based material fibre such as cotton would be to have a resulting non-homogenous cross-sectional fibre distribution within the yarn. In contrast, the claims of the claimed invention results in the different outcome.

25. The learned Counsel for the Appellant submitted that the prior art references relied on by the Respondent relate to the domain of "*low twist yarns*" that were previously known in the art. Prior to the claimed invention, it was known to manufacture "*low twist yarns*" wherein such manufacturing would consist of:

a. forming a blended sliver of the base material fibre (e.g., cotton) and PVA fibres.
b. Spinning the blended slivers of the base material fibres and the PVA fibres into a yarn
c. washing the spun yarn / fabric made of the yarn with hot water to dissolve the PVA, resulting in a yarn or fabric that is made of a single material, and that has a lower twist factor, resulting in a yarn

that is less tightly twisted and therefore, is fluffier and has a better or softer feel.

26. The learned Counsel for the Appellant further submitted that critical difference between the "*low twist yarns*" and fabrics known in the prior art, versus the Appellant's claimed invention is the fact that the Appellant's claimed invention seeks to provide a homogenous distribution of pores across a radial cross-section of the yarn that is used to manufacture the terry fabric. This feature is not disclosed in any of the prior art references cited by the Respondent.

27. The learned Counsel for the Appellant submitted that the Hindsight Bias arises in inventive step analysis when the learned Controller evaluates patent applications with the knowledge of the invention in question and how it works in comparison to prior known methods or devices. This knowledge makes these evaluators more likely to think an invention is obvious and refuse issuing a patent. The application of Hindsight Bias has consistently been held to be impermissible. The learned Counsel for the Appellant relied and emphasised on the following judgments while making this submission:

a. ***Enercon (India) Limited v. Aloys Wobben***, 2013 SCC OnLine IPAB 91
b. ***Pharmacyclics, LLC v. Controller General of Patents, Designs Trademarks and Geographical Indications and Ors.***, 2020 SCC OnLine IPAB 37
c. ***Avery Dennison Corporation v. Controller of Patents and Designs***, 2022 SCC OnLine Del 3659

28. The learned Counsel for the Appellant submitted that the Impugned Order is incorrect as *firstly*, it is immaterial whether homogenous blending of

slivers is previously known or not known. The issue is whether the homogenous distribution of pores in the final yarn that is spun based on such slivers is known or disclosed. *Secondly*, regardless of the learned Controller's statement that homogenous blending of fibres is well known, the question is whether any prior art reference has ever taught or disclosed homogenous blending across a radial cross section in a blend 13 comprising a base fibre and PVA. *Thirdly*, even setting aside the fact that none of D1 to D4 teach a radially homogenous distribution of pores and does not establish in any way that the D1 to D4 references were contemplating a homogenous distribution of pores (or of water-soluble fibres) across a radial cross-section of a yarn.

29. The learned Counsel for the Appellant further submitted that the most recent of these references was filed more than 13 years ago and that despite the fact that each of the prior art references relied on by the Respondent is more than 13 years old, there has to-date still been no prior art reference or solution which discloses the feature of a yarn having a homogenous distribution of pores across its radial cross-section.

30. Accordingly, the learned Counsel for the Appellant submitted that the Impugned Order is liable to be set aside and the matter shall be remanded back to the learned Controller for fresh consideration.

SUBMISSIONS ON BEHALF OF THE RESPONDENT

31. The learned Counsel for the Respondent submitted that the Appellant has referred to "*Teaching Suggestion Motivation*" in the prior art while arguing inventive step by drawing an analogy from US methodology for assessing inventive step. However, the US Supreme Court in ***KSR International Company. v. Teleflex Inc. Et Al***, 2007 SCC OnLine US SC 33, wherein it was held that the test for obviousness used by the US Federal

Circuit was inconsistent with the Patent Statute and Supreme Court precedent. In the present matter, the claims and cited documents are different and the criteria for determining inventive step are not identical in the US and India. The learned Counsel for the Respondent submitted that the there is a striking difference in the evaluation of inventive step with respect to the definition of "*person skilled in the art*" (in India) and "*person having ordinary skill in the art*" (in US), the importance of which has been highlighted by this Court in the matter of ***F. Hoffmann-La Roche Ltd., Switzerland & Anr. v. Cipla Ltd***, 2012 SCC OnLine Del 4709. The Subject Application had been refused on the ground of a lack of inventive steps. Therefore, any direct comparison of the proceedings in the US is not conclusive and may even be called irrelevant.

32. The learned Counsel for the Respondent further contended that the Appellant relied heavily on the Publication and attempted to establish that the document is not prior art. In fact, the Publication is a review book published after the priority date of the Subject Application. However, the contents of the book are directly reproduced verbatim from: ***The Reiter Manual of Spinning, Volume 1; Technology of Short Staple Spinning***; Klein, W. (2008); Switzerland: Reiter, published much before the priority date of the Subject Application.

33. The learned Counsel for the Respondent further submitted that the Appellant did not provide any quantitative / numerical estimation or data to establish its claim of alleged "*homogeneous distribution*", which is against the well-established natural belief and expectation. Under such a scenario, the claim of a homogeneous distribution, based on which almost all the arguments of the Appellant are placed in the Appeal, is just a qualitative hypothesis

without any experimental validation and against all established facts of blending.

34. The learned Counsel for the Respondent submitted that the Impugned Order discussed that document D1 disclosed a fabric made of two types of fibres (water soluble and insoluble) by blending at a draw frame and subsequently spinning yarn and weaving fabric. The fabric was treated with hot water to remove water soluble PVA fibres. It disclosed blending spinning the ramie fibre with the water-soluble fibre as carrier comprises subjecting the water-soluble fibre and the ramie fibre to the steps of pre-drawing, drawing, roving and spinning to obtain a blended yarn to achieve uniform yarn which is exactly the same as the Subject Application. The document D2 disclosed a process for making a thread with a mixture of natural and or synthetic fibres wherein the first fibre is water insoluble and the second fibre is water soluble from blending slivers. The document D2 also hints at uniform blending for better quality yarn and fabric. Documents D3 and D4 disclosed similar yarns and fabrics with varying weight percentages of water-soluble fibres, starting from 2% to 80%.

35. The learned Counsel for the Respondent further submitted that it is clarified in the Impugned Order that it was found that, except for the passages through the draw frame and doubling and subsequent spinning machine passages, there was no special factor that may lead to the alleged "*homogeneous distribution*" of fibre. It was found that a similar process sequence was followed in D1. Moreover, sliver blending in a draw frame is a routine exercise in blending in a spinning mill. This clearly justifies the views of the learned Controller that the alleged uniform distribution of pores is the result of blend homogeneity achieved through one or more draw frame

passage. Since the abovementioned feature was not validated and qualitatively claimed, the learned Controller's conclusion that a similar process (known from prior art) when followed with similar material and condition would result in a similar distribution of fibres in the yarn.

36. The learned Counsel for the Respondent submitted that it is well-known in the art that individual fibres behave differently in the spinning machines and hence, the processing of blends needs certain adjustments. However, a skilled spinner plays with the machine and process parameters to achieve the best possible and quality blended yarn.

37. The learned Counsel for the Respondent submitted that the description and drawing of the complete specification did not mention anything about the homogeneous distribution of pores across the radial cross-section of the yarn. The specification also talked about blend homogeneity of fibres and not pores in the radial direction of slivers as ideal method for achieving through pores on the surface of the final yarn and not homogeneously distributed pores across radial cross-section. Therefore, the claim of homogeneously distributed pores across the radial cross-section of the yarn is not even described and supported by the description itself. Furthermore, such a claim of homogeneous distribution of PVA fibres in yarn subsequent dissolving of which creates pores and its distribution pattern is a theoretical concept and practically impossible according to state-of-the-art literature.

38. The learned Counsel for the Respondent submitted that the contention regarding the alleged hindsight analysis is not applicable in the present case especially as the key arguments of the Appellant based on alleged 'homogeneous distribution of pores across the radial cross-section of yarn' are not established by the Appellant. The cited documents followed a similar

process and highlighted the importance of even / uniform distribution of fibres in yarn to arrive at a similar yarn. Such a disclosure acts very well as a 'coherent thread' to motivate a PSITA. The prior art is from the same field of technology and attempts to blend a water-soluble fibre with a carrier fibre to form yarns and fabric. Subsequently, dissolves the water-soluble fibre by water treatment to have a porous or so-called air-rich yarn / fabric.

39. The learned Counsel for the Respondent further submitted that the Appellant provided an auxiliary set of claims that is identical to the claims allowed by the EPO for consideration of the grant. However, such claims were not proposed / considered during prosecution.

40. The learned Counsel for the Respondent submitted that the bar of patentability has become higher since 1970 and it is not sufficient to merely show that the invention is new or is not obvious to a PSIT (like EPO). In a landmark judgment passed by this Court in ***F. Hoffmann-La Roche*** (*supra*), it was warned about bringing in special doctrine from other jurisdictions while considering inventive steps in India. Rather, it was emphasized to rely on the provision the Act and the prevailing jurisprudence in India itself.

41. Accordingly, it is a settled principle under the Act, that no patent right is granted for hypothetical assumptions that were not validated. The Appeal, therefore, ought to be dismissed.

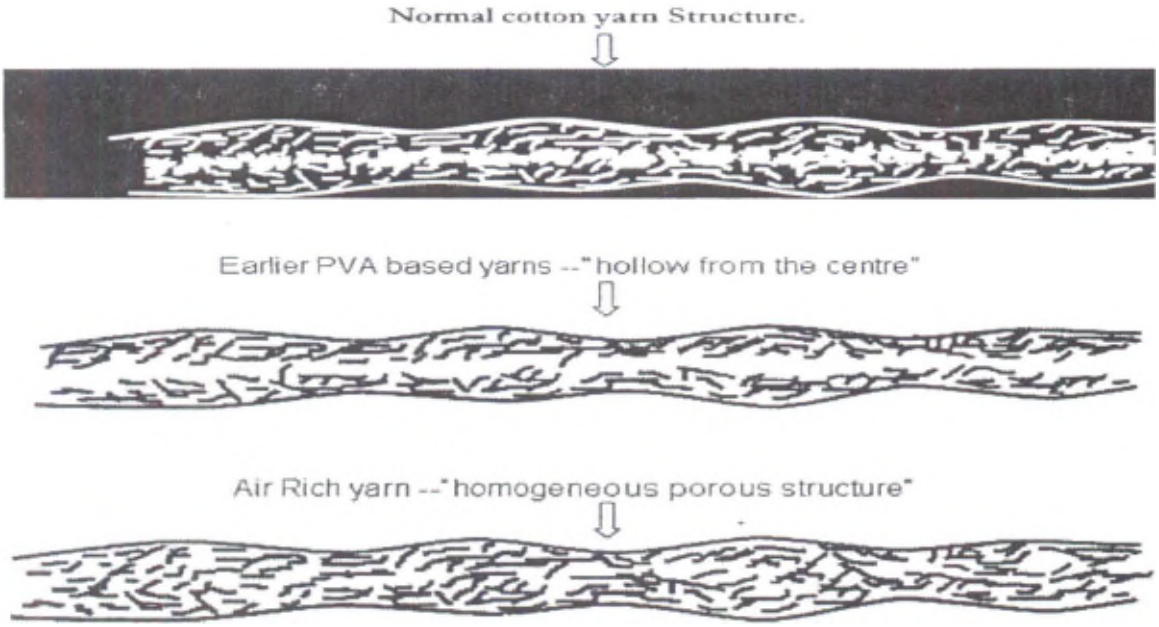
ANALYSIS AND FINDINGS

42. The claimed invention describes "*air rich fabric*" and "*air rich yarns*" having pores throughout the cross-section. The claimed invention describes a process of manufacturing air rich fabric yarns. The air rich fabric has increased thickness that has the advantage of keeping the body warm as it prevents the body's heat from transmitting easily through the fabric. During

the process of manufacturing, it is the natural tendency of PVA to migrate outwards, and this is a problem in the prior art. In the claimed invention, the yarn has pores, and the pores are homogeneously distributed.

43. A diagram of normal cotton yarn structure and cotton yarn structure as claimed under the Subject Application is hereunder:

Fig. 1



44. The amended Claim 1 of the Subject Application submitted by Appellant dated 13.11.2020 is reproduced hereunder:

> *"1. A woven or knitted fabric woven or knitted with yarn having a homogenous porous structure, said yarn having at least 2 types of fibres, the at least 2 types of fibres being:*
>
> *a) a water soluble material fibre;*
>
> *b) a base material fibre;*
>
> *the woven or knitted fabric comprising:*
>
> *yarn having a plurality of base material fibres that are S or Z twisted together,*
>
> *wherein the base material fibres are arranged to form through pores between said base material fibres and <u>the pores in the</u>*

*yarn are homogenously distributed across **the radial cross section of the yarn**; and*

wherein the water soluble material fibre is removed to form pores within the yarn during a fabric processing step when manufacturing the fabric, and characterized in that the pores in the yarn are homogenously distributed throughout the cross-section of the yarn;

characterized in that the pores have been formed between the base material fibres of the yarn at least by:

forming blended slivers comprising the base material fibres and water soluble material slivers, wherein:

the weight of the water soluble material slivers is between 8% to 25% of the weight of the yarn;

and the base material fibres and water soluble material fibres are blended homogenously across the radial direction within the blended slivers;

spinning roving that comprises the blended slivers, to form the yarn;

weaving or knitting the fabric using the yarn; and

treating the fabric with water to dissolve water soluble material from the fabric, such that the yarn within the fabric has through pores formed between the base material fibres, and said through pores are homogenously distributed across the radial cross section of said yarn."

45. It is the natural tendency of PVA is to migrate outwards. The solution is that if there are 8 fibers, 7 of them are cotton, and the center one is made of PVA. All the PVA do not migrate towards the outside. It migrates to the different radial portions of the cross-section.

46. The summary of the specification states the object of the invention, which is to provide a method for manufacturing fabrics, that are highly wettable, easily dryable, quick absorbing and are thicker. The process involves blending the water-soluble fibres with the base fibres. The process involves the modified method of blending water-soluble fibre slivers along with the base material fibre slivers on the draw frame of the spinning system. The summary further states that this method helps in achieving pores

throughout the surface of the final yarn and making the porous yarn structure in the final fabric stage.

47. The complete specification, under the heading process of manufacturing, the fabric states the various steps, one of which is hereunder:

> *"Blending water soluble material slivers with the base material slivers It involves blending water soluble material slivers with base material slivers in the draw frame of a cotton spinning system.* ***Further, giving one or more draw frame passages for achieving the blending homogeneity in radial direction is the ideal method of achieving through pores on the surface of the final yarn and making the porous yarn structure in final fabric because water soluble fibres are uniformly distributed in the structure of the yam.*** *This is quite different from the nornial "PVA based absorbent" yarn where PVA fibres are their in the core of the yam and goes off only from the core in final finishing stage making core hollow with so called closed or blind pores not the whole structure porous with through pores."*

48. The process of manufacturing the fabric under the specification aims to achieve a porous yarn structure uniformly distributed in the final fabric.

49. Prior art document D1 discloses the use of soluble fibre. The process starts with blend spinning a ramie fibre of 2500 nm / higher by using a water-soluble fibre as a carrier to form a yarn and sizing the yarn at a low temperature, followed by weaving the yarn into a gray fabric. Thereafter, the water-soluble fibre is removed from the gray fabric by de-weighting the gray fabric. It also discloses, subsequent water treatment of the fabric to dissolve soluble fibres. The relevant paragraph that discusses the composition of the two fibres is reproduced hereunder:

> *"In other words, the content of the ramie fibres in the blended yarn is about 20-70wt%, preferably about 30-60wt%, more preferably about 30-50wt% based on the dry weight of the blended yarn, and the content of the water-soluble fibres in the blended yarn is about 80-30wt%, preferably about 70-40wt%, more preferably about 70-*

50wt% based on the dry weight of the blended yarn."

50. It is important to note that the Independent Claim 1 and Claim 8, which state that the pores in the yarn have been formed by blending base material fibres and water-soluble material fibres in a weight ratio in which the water-soluble material slivers are between 8% to 25% of the weight of the yarn. Therefore, it can be stated that the document D2 does not disclose the composition and the homogeneous distribution of the of pores across a radial cross-section. The weight ratio of the two fibres is essential to get the desirable result, and the document does not suggest / motivate altering the same.

51. The prior art D2 relates to a process for making a thread that is comprised of a mixture of different fibres. The D2 reference discloses a process for making a thread that comprises a mixture of natural and / or artificial and / or synthetic and / or mineral fibres, either pure or mixed with each other, consisting of evenly humidifying first fibres, mixing the first fibres that have been humidified with second fibres that are soluble in an environment wherein the first fibres are not soluble, making a sliver composed of a mixture of first and second fibres, weaving the sliver making a thread composed of a mixture of first and second fibres. The thread consisting of the mixture of first and second fibres is then woven, making a fabric, and subsequently, the second soluble fibres are dissolved, so as to obtain a fabric consisting of the first fibres only.

52. The relevant paragraph of the document D2, which suggests the even distribution of the two fibres, is mentioned on Page 6 of the document. The relevant paragraph is reproduced hereunder:

"Advantageously, once the first fibres and the second fibres have been mixed making a sliver consisting of a mixture of first and second

fibres and before spinning this sliver, the sliver is subject to recombing, so as to mix the first and the second fibres in a closer and more even manner; this ensures the quality of the end threads and fabrics."

53. However, the document D2 also suggests the use of soluble fibres and above 20% in the following language:

"In the practice, using the process according to the finding it is possible to make mixtures having even very high percentages by weight of soluble fibres and above 20%."

54. Further, document D2 also provides a reference to the concentration of the blended fibre. The relevant paragraph is reproduced hereunder:

"The soluble fibres for example consist of water soluble fibres such as alginate or polyvinyl alcohol (PVA) fibres that are soluble in aqueous solution, or fibres soluble in carbonizing (an aqueous solution of sulphuric acid) such as cellulosic fibres (vegetal and/or artificial fibres); such soluble fibres are comprised in the sliver by a percentage by weight below 80% and preferably comprised between 30-60%. Afterwards, the sliver is spun with an S or Z twist, making a thread consisting of a mixture of first and second fibres."

55. Therefore, like D1, D2 also failed to disclose the homogeneous distribution of pores across the radial cross-section of the yarn, which is claimed under Claims 1 and 8 of the Subject Application.

56. Paragraph No. [0015] of the document D3 reference discloses a working example, where the water soluble vinylon short fibres are present 30% by weight. The relevant paragraph is reproduced hereunder:

"[0015] Example 1 Pineapple short fibres (10-45 d, average fibre length 20- 50 mm) 70% by weight and water-soluble vinylon short fibres (3d, Average fibre length 30 mm) 30% by weight is mixed and spun in a sliver state, and passed through a roving machine and a spinning machine to be 9th (English cotton count)."

57. Document D3, as stated in the Impugned Order, discloses the soluble short fibres in a ratio of 50:50- 90:10. Additionally, in Paragraph No. [0017] the water-soluble fibre is present in 60% by weight. Under Paragraph No. [0018] of D3, the water-soluble fibre is present in 5% by weight when compared to the total yarn weight. It is important to note that the D3 reference does not teach the various method steps of the claimed invention under the Subject Application.

58. Document D4 discloses producing yarns with water-soluble PVA fibre at a weight proportion of 2% to 80% along with a water-insoluble fibre. It is important to note that there is no disclosure or suggestion of the yarn having pores distributed homogenously across a radial cross-section.

59. Except for the document D4, which discloses producing yarns with water-soluble PVA fibre at a weight proportion of 2% to 80% along with a water-insoluble fibre, there is no overlapping range of concentration of soluble fibres given. It is important to note that, as discussed above, there are different percentages of the soluble files given under D1 to D4.

60. The discussion of the 20% percentage by weight of soluble fibres under D2 is to make mixtures having even very high percentages by weight of soluble fibres. Hence, this specific reference cannot be relied on the support the obviousness argument.

61. The Appellant, while relying on the publications placed on record by them, submitted that the argument of the Respondent that it is the routine job of a spinner to optimise the machine and process parameters so as to obtain a reasonably acceptable homogenous yarn, cannot be accepted as the available literature, clearly establish that yarns with distinctly unbalanced blends (e.g.,

90 / 10) will be more streaky i.e., not homogenously formed when compared with a balanced blend (50 / 50).

62. The learned Counsel for the Appellant submitted that the even distribution of fibre is ruled out by the non-homogeneity of the fibre material and by mechanical constraints. The learned Counsel for the Appellant further submitted that even if a uniform distribution of fibres is obtained during the process of blending, it is challenging to maintain even in the later stages, as when a drafting force is applied, they move differently which leads to clumping of fibre into clusters resulting in de-blending. The learned Counsel for the Appellant submitted that the Publication additionally mentions that it indicates that raw materials used in spinning are non-homogeneous in their characteristics owing to different cultivation or manufacturing conditions.

63. It is important to note that the claims of the presents invention result in a different outcome. It results in a yarn where the PVA and non-PVA base fibres are distributed homogenously across a yarn radial cross-section. By providing a yarn having a plurality of pores that are homogenously distributed across a radial cross-section of the yarn, the claimed invention provides a yarn structure that is neither taught nor achieved by any of the prior art references D1 to D4. The Court agrees with the submission of the Respondent that the criteria for determining inventive step are not identical in the US and India. However, while rejecting the Subject Application on the ground of lack of inventive step, the learned Controller ought to explain how the documents D1 to D4 would render the claimed invention obvious, citing the specific paragraphs of the documents.

64. In light of submissions made from these publications that were placed on record by the Appellant, it becomes crucial to establish the obviousness clearly, as the common knowledge teaches away from the claimed invention.

65. The Impugned Order is silent on how the cited references D1 to D4 provide teaching that would lead to select the weight of the water-soluble fibres as being between 8 % and 25% of the total weight of the blended yarn as claimed under Claims 1 and 8 of the Subject Application.

66. In ***Enercon (India) Limited*** (*supra*) where it has been held that mere presence of elements of the invention in the prior arts will not *ipso facto* mean obviousness, there must be a coherent thread that leads from the prior arts to the invention in question. The relevant paragraph is reproduced hereunder:

> *"The mere existence in the prior arts, of each of the elements in the invention, will not ipso facto mean obviousness. For after all most inventions are built with prior known puzzle-pieces. There must be a coherent thread leading from the prior arts to the invention, the tracing of the thread must be an act which follows obviously. We must apply this reasoning to test if indeed it is obvious, or if it seems to us to be obvious to the person skilled in the art because of what we know now. If it is the latter, it is hindsight deduction and is not acceptable, but if it is the former, then the patent must go."*

67. Further, in ***Pharmacyclics, LLC*** (*supra*), the Intellectual Property Appellate Board held that the pharmaceutical guidelines itself illustrate in one of its examples that even after a "*hindsight analysis*" if combination of two prior art documents fails to provide the result as claimed in an invention in question, then the teaching of such prior art documents is considered to be teaching away.

68. The learned Counsel for the Appellant submitted that under Paragraph No. 24, the learned Controller completely failed to acknowledge the

positioning and layout of the PVA fibre among the cotton fibres. The statement that the Appellant failed to suggest any special measures adopted is incorrect. This statement is incorrect with respect to Paragraph No. 19 of the Impugned Order, which states otherwise as it accepts the fact that there is a homogeneous distribution of water soluble PVA fibres within the base fibres. Additionally, there are several working examples that show that special measures are adopted to impart a uniform radial distribution of fibres in the yam cross-section. Paragraph No. 19 of the Impugned Order is as follows:

> *"19. At this point it must be understood that uniform distribution of pores across the cross section of the yarn is "a desired result to be achieved" due to homogeneous distribution of water soluble PVA fibres within the base fibres, which subsequently dissolves during water treatment. Therefore, the question that arises is whether the method by which such distribution is created is unique or something that have not been tried before in the prior art? On the other hand, isn't it reasonable to comprehend that if a similar yarn is prepared by blending the water soluble fibres and base fibres in a similar way (draw frame blending), wouldn't it lead to a similar "result to be achieved", i.e. claimed uniform/homogeneous distribution??"*

69. Further, Paragraph No. 24 of the Impugned Order concludes that the Appellant failed to suggest any special measures adopted to achieve the uniform radial distribution of fibres in the yarn cross-section. Paragraph No. 24 of the Impugned Order is reproduced hereunder:

> *"24. Since the applicant failed to suggest any special measures adopted to impart uniform radial distribution of fibres in the yam cross section (apart from a selection of multiple drawframe, speed frame and ring frame passages). The applicant himself suggested in description that no special measures were adopted in subsequent processing (speed frame and ring frame), it is quite reasonable to apprehend that the so called "homogeneous distribution of fibres across yarn radial cross section" is due to its processing through draw frame, speed frame and ring frame. Since the cited documents*

also follow a similar processing route, there is no credible reason to deny that it would also lead to a so called homogeneous cross sectional fibre distribution as claimed in the instant application."

70. The statement in Paragraph No. 19 that "*uniform distribution of pores across the cross section of the yarn is due to homogeneous distribution of water soluble PVA fibres within the base fibres*", it seems that the learned Controller agrees that there is uniform distribution of pores across the cross-section of the yarn. If so, it becomes contrary to the conclusion of the learned Controller under Paragraph No. 24 of the Impugned Order.

71. The learned Counsel for the Appellant submitted that the argument of the learned Controller is that the Appellant has failed to show any special measure to arrive at this homogeneous solution, is not correct.

72. According to the Respondent, the Reply to FER, the Appellant has submitted that the Appellant's major part of the arguments is based on the proportion of water-soluble fibre in the yarn and fabric and claimed homogeneous distribution of the water-soluble fibres in the radial cross-section of the yarn.

73. This Court has referred to the complete specification of the Subject Application. Example 2 of the specification pertains to the "*Air Rich Yarn made using J34 cotton"*. The example outlines the process parameters for manufacturing air rich yarn using J34 cotton as base material and PVA as water soluble material. The parameters are provided in Table No. 6 of the Counter Statement. The table shows the considered parameters, such as all machine settings, Speed & Waste level of Blowroom, Draw Frame and Carding, Unilap, Comber, Ring frame and Simplex. Table No. 6 is reproduced hereunder:

Sr. No.	Count	12 Cw Air rich (PVA / J 34Cotton)	
	Fibre Parameters		
	Fibre Denier	1.2 Denier	
	Fibre Length	38 mm	
	Fibre Upper Half Mean Length		28.85
	Micronaire		4.59
	Fibre Strength (gm/tex)		31.23
1	**Blowroom**	PVA	Cotton
	Mixing	100% PVA	100% S 6
	MBO Beater 1 Speed	450 rpm	450 rpm
	MBO Beater 2 Speed	650 rpm	650 rpm
	Vario Clean	650 rpm	650 rpm
	Unimix		500 rpm
	ERM		550 rpm
2	**Carding**		
	Speed	100 m/min	150 m/min
	Cylinder Speed	450	500
	Licker In Speed	650	950
	Flat Speed	7.5 inch/min	
	Flat Gauge	12,12,16,16,16	12,12,10,10,10
	Output Hank	0.1	0.12
3	**Levelling / Breaker**	**RSB (Levelling)**	**DO/6**
	Break Draft	1.16	1.7
	Roll Gauge	46/50	40/44
	Speed	400	350
	Doubling	6	8
	Input Hank	0.1	0.12
	Output Hank	0.103	0.12
4	**Unilap (only for Cotton)**	Not Applicable for PVA	**LH 10**
	Speed		110
	Break Draft		1.02
	Doubling		22

	Lap Hank		76 gm/mtr
5	**Comber (only for Cotton)**	Not Applicable for PVA	
	Nips/Min		350
	Feed/Nip		4.7 mm
	Noil		16.50%
	Output Hank		0.11
6	**Finisher / Blender**	**RSB (Blending)**	
	Break Draft	1.16	
	Speed	450 m/min	
	Doubling	6 cotton : 1 PVA (PVA in Center)	
	Output Hank	0.11	
7	**Simplex**		
	Rov Hank	0.55	
	Speed	850	
	Spacer	9 mm	
	TM	1.25	
8	**Ringframe**		
	Speed	11600	
	TM	3.5	
	Spacer	4.5	
	Break Draft	1.2	
	Yarn Count (English System)	12s Ne	
9	**Winding**		
	Winding Speed	1300 m/min	
	Cone Weight	2.52 kg	

74. Referring to Serial No. 6 that is, Finisher / Blender in Example 2, the learned Counsel for the Appellant submitted that there are 6 cotton surrounding 1 PVA, which is in the center. The learned Counsel for the Appellant, therefore, argued that this is how the homogeneous distribution of the pores is achieved. The uniqueness of the claimed invention under the Subject Application is the outcome, i.e., homogeneous distribution of the pores. Once the towel is ready, the PVA will be washed away. The learned

Counsel for the Appellant further argued that, therefore, the position of PVA is immaterial.

75. The Court has also noted that apart from this example, Table Nos. 6 to 11, which correspond to the Examples 2 to 7 of the complete specification, identify exemplary manufacturing parameters used by the Appellant to manufacture yarn / fabric in accordance with the teachings of the claimed invention. However, none of these examples are addressed in the Impugned Order.

76. The decision of the learned Controller that there are no special measures adopted to achieve uniform radial distribution of fibres in the yarn cross-section cannot be accepted without addressing the exemplary manufacturing parameters used by the Appellant to manufacture yarn / fabric in accordance with the teachings of the claimed invention.

77. Therefore, the reasoning of the learned Controller under Paragraph No. 24 of the Impugned Order cannot be accepted, which states that the Appellant has failed to suggest any special measures adopted to achieve uniform radial distribution of fibres in the yarn cross-section.

78. The argument of the Respondent that the description and drawing of the complete specification did not mention about the homogeneous distribution of pores across the radial cross-section of the yarn is incorrect, as the process under the complete specification does mention the same. The above-mentioned discussion of the specification at Paragraph Nos. 47 and 48 states that the homogeneous distribution of porous yarn across the radial cross-section is aimed to be achieved in the process. Even assuming that the learned Controller was of a contrary view, it was incumbent to discuss this issue in the Impugned Order.

79. Further, the learned Controller's observation in Paragraph No. 20 under the analysis and decision of the Impugned Order that "*a homogenous distribution of fibres along the radial cross section of the yarn is the ultimate goal for any blending of fibres*", is not accurate in the light of the Independent Claim 1 of the Subject Application, which claims the pores in the yarn are homogenously distributed pores across the radial cross-section of the yarn. The Appellant's claimed invention under the Subject Application is directed towards the homogenous distribution of pores between fibre and not towards the homogenous distribution of fibre.

80. Therefore, the Impugned Order suffers from various infirmities that need to be addressed. The parameters under the examples of the complete specification need to be considered to determine the inventive step under Section 2(1)(ja) of the Act. The obviousness needs to be addressed in light of the documents placed on record.

81. Accordingly, the Impugned Order dated 05.01.2021 passed by the learned Controller is set aside, and the matter is remanded back to the Respondent for fresh consideration. The Respondent shall afford a fresh opportunity of hearing to the Appellant before deciding the Subject Application. The Respondent shall consider the auxiliary claims submitted by the Appellant before this Court and pass an appropriate order.

82. The matter shall be decided by another Controller than who passed this Impugned Order. The learned Controller shall decide the matter on the merits in accordance with the law, uninfluenced by any observations made by this Court in the Order. The learned Controller shall reconsider the matter within a period of six months from the date.

83. A copy of the Order shall be sent to the learned Controller General of

Patents, Designs and Trademarks at the e-mail address – llc-ipo@gov.in for the necessary administrative action.

84. The Appeal is disposed of in the aforesaid terms.

TEJAS KARIA, J

NOVEMBER 24, 2025
'KC' / 'N'