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

+ **C.A.(COMM.IPD-PAT) 20/2025**

KERANOVA

.....Appellant

Through: Ms. Vindhya S. Mani and Ms. Ardra
Goodwin, Advocates.

versus

THE ASSISTANT CONTROLLER OF PATENTS AND DESIGNS

.....Respondent

Through: Ms. Nidhi Raman, CGSC with Mr.
Om Ram and Ms. Nikita Singh, Advocates.

CORAM:

HON'BLE MS. JUSTICE JYOTI SINGH

ORDER

% **16.03.2026**

1. This appeal is filed on behalf of the Appellant under Section 117A of the Patents Act, 1970 ('1970 Act') for setting aside the impugned order dated 12.02.2025, whereby Respondent has refused grant of patent in Patent Application No. 202217006198 filed by the Appellant in respect of claimed invention titled '*Cutting Apparatus with Optical Coupler including a Polarisation Corrector*' as also for a direction to the Respondent to grant the patent.

2. To the extent necessary, facts are that Appellant filed a PCT Application No. PCT/EP2020/070302 dated 17.07.2020 having 1-10 claims originally, taking priority from FR1908208 dated 19.07.2019. On 04.02.2022, Appellant filed the National Phase Application bearing No. 202217006198 with originally filed claims 1-10 before Indian Patent Office, Delhi along with Form-3 and other documents. On 12.06.2023, Appellant



filed request for examination and First Examination Report ('FER') was issued on 08.03.2024. Appellant submitted requisite details under Section 8(2) of 1970 Act on 03.09.2024 along with updated Form-3 and also filed response to FER on 05.09.2024 along with amended claims 1-10. After hearing concluded, Appellant filed written submissions and amended claims 1-8 on 15.10.2024, whereafter Respondent passed the impugned order dated 12.02.2025 refusing grant of patent on ground of lack of inventive step under Section 2(1)(ja) in view of prior arts D1: US20170340483A1 and D2: FR3026940A1.

3. Present invention relates to the technical field of treatment of eye diseases performed using a femtosecond laser and, more particularly, the field of ophthalmological surgery, in particular, for corneas or lenses cutting applications. Invention relates to a device for cutting human or animal tissue, such as cornea or a lens by means of femtosecond laser. The system compensates for any deviation in polarization that might occur after the laser beam exits the laser source but before it reaches the focusing plane. Amended claim 1 of the patent application refused by the Respondent is as follows:-

"1. An apparatus for cutting human or animal tissue, such as a cornea, or a lens, said apparatus including:

- a laser source (1) for emitting a treatment laser beam (11) in the form of pulses,*
- a shaping system (2) - such as a spatial light modulator (SLM) - positioned downstream of the laser source (1), for transforming the treatment laser beam (11) into a single phase-modulated treatment laser beam, the shaping system (2) being able to modulate the phase of the wavefront of the treatment laser beam (11) according to a modulation set value calculated to distribute the energy of the single modulated treatment laser beam into at least two impact points forming a pattern in a focusing plane (81),*



- *an optical coupler (3) between the laser source (1) and the shaping system (2),*
- *a polarization corrector (7) for modifying the polarization of the treatment laser beam (11) upstream of the optical coupler (3), so that the polarization of the treatment laser beam (11) downstream of the optical coupler (3) corresponds to a desired reference polarization, the polarization corrector (7) being mounted between the laser source (1) and the shaping system (2),*

characterized in that:

- *the optical coupler includes a photonic crystal fiber (31), and in that*
- *the polarization corrector (7) comprises:*
 - *means (71) for measuring a polarization variation between an input end of the optical coupler (3) and an output end of the optical coupler (3), and*
 - *means (72) for modifying the polarization of the treatment laser beam (11) upstream of the optical coupler (3) so as to compensate for the measured polarization variation.”*

Technical problem brought forth by the Appellant

4. One of the conventional techniques describes an apparatus for cutting human or animal tissue, such as a cornea or lens. The apparatus includes a femtosecond laser source, a shaping system, an optical coupler, a sweeping optical scanner, an optical focusing system and a control unit. The laser source emits initial pulsed beam in the form of pulses. The shaping system modulates the initial beam into a single phase-modulated beam with energy distributed into at least two impact points forming a pattern in a focusing plane. An optical coupler with a Photonic Crystal Fiber (PCF) filters the laser beam between the laser source and the shaping system, while the sweeping scanner moves the pattern along a pre-defined path and the optical focusing system adjusts the focusing plane within the cutting plane for the target tissue. These components are managed by the control unit.

5. The cutting device/apparatus is integrated into a hinged arm and the



shaping system, sweeping optical scanner and the optical focusing system can be mounted in a chamber ('working head') at the arm's free end while the laser source and control unit are integrated into a casing of the hinged arm. The optical coupler extends between the casing and the working head to transmit the laser beam from the laser source and the shaping system and owing to its substantial bulk, the laser source cannot be positioned in the working head of the hinged arm. When the laser beam travels through the PCF, its polarization varies depending on the position and orientation of PCF, which in turn depend on the position of the working head relative to the hinged-arm casing. Since the shaping system is sensitive to polarization of the beam, the variation induces a reduction in the power of the modulated beam at the output of the shaping system and the modification degrades the quality of modulated signal at the output of the shaping system.

Technical Advancement brought forth by the Appellant

6. Claimed invention, as claimed in claim 1, relates to an efficient and accurate apparatus for cutting human or animal tissue such as a cornea or lens. The apparatus may include a laser source, a shaping system, which may be a Spatial Light Modulator, an optical coupler and a polarization corrector. The laser source emits a pulsed treatment beam and the shaping system positioned downstream transforms it into a single phase-modulated beam with energy distributed into at least two impact points in a focusing plane. The optical coupler, which includes a PCF, is positioned between the laser source and the shaping system. The polarization corrector, positioned upstream of the optical coupler, modifies the polarization of the treatment beam before it enters the optical coupler.

7. The polarization corrector adjusts polarization of the treatment laser



beam upstream of the optical coupler so that polarization of the beam downstream of the coupler corresponds to the desired reference polarization. Polarization corrector incorporates means for measuring polarization variation between the input and output of the optical coupler, as well as means for compensating for this variation. Present invention provides an efficient and accurate cutting apparatus and enables maintaining full power of the modulated laser beam at the output of the shaping system, irrespective of the position and orientation of the system. In essence, the polarization corrector prevents the treatment laser beam entering the shaping system from degrading the quality of modulated signal at the output of the system. It allows correction of polarization of the treatment laser beam before it enters the shaping system, ensuring that the modulated beam exiting the system remains optimal. It compensates for polarization variations introduced by the optical coupler so that the beam reaching the shaping system has the desired polarization at the input of the shaping device.

Consideration by the Controller

8. Respondent noted the key technical features of the invention as being Polarization Corrector; measuring polarization variation; Optical Coupler; PCF; Shaping System; Spatial Light Modulator (SLM); Control Unit; and Improved Cutting Efficiency and Quality. Thereafter, it noted the problem for which the invention was made as also the solution provided, as follows:-

***“Problem for Which the Present Invention was Made:** The use of femtosecond lasers to cut human or animal tissue, like a cornea or lens, is one major difficulty in the field of laser eye surgery that the current invention attempts to solve. The primary issue that the current invention seeks to address is the laser beam's fluctuating polarization as it passes through the optical system, which can impair the caliber and efficiency of the laser cutting procedure.*

***Solution Provided by the Present application:** In order to solve these*



problems, the current invention presents a cutting device with a polarization corrector that:

- ***Measuring Polarization Variation:*** *The invention incorporates methods for determining how much the laser beam's polarization changes as it passes through the optical system.*
- ***Correcting Polarization:*** *The invention incorporates methods for altering the laser beam's polarization to make up for the observed fluctuation and guarantee that the beam stays in the intended polarization state.*
- ***Maintaining Full Power and Quality:*** *The invention makes sure that the laser beam keeps its full power and quality by continuously measuring and correcting polarization fluctuations, which leads to more accurate and effective cutting.”*

9. Cited prior art D2 was taken as the closest prior art and referencing prior arts D1 and D2, Respondent concluded that a person skilled in the art with knowledge of components and systems disclosed in D1 and D2, will be able to combine these elements to achieve the present invention. It was observed that specifically, they could integrate the polarization management components from D2 with the precise control and measurement systems from D1 to create a comprehensive system for continuous polarization control and measurement and thus present invention could be derived by combining the teachings of D1 and D2 and lacks an inventive step.

10. Respondent notes that D1 teaches a system for short pulse laser eye surgery including a beam guidance method to guide the brief pulse laser radiation from laser source to the eye and explicitly mentions use of PCF with a hollow core to guide the beam. D1 also discloses a beam stabilization system to preserve the position and direction of the beam. In D1, an Optical Coherence Tomography (OCT) Module is mentioned for imaging eye structures along with usage of a short-pulse laser. D1 details an optical system bench that offers stabilization and notes that the laser source delivers



light in a pulsed form. D1 thus mentions beam stabilization and ensures precision and quality of the laser beam delivered to the target tissue.

11. Respondent notes that D2 is directed towards improving cutting efficiency of a femtosecond laser for dissecting corneal tissue by creating adjacent cavitation bubbles and achieves this through beam shaping using a SLM. D2 also explicitly teaches use of components for managing polarization such as a half-wave plate and a polarizing cube, which are used to manage the polarization of the laser beam.

12. After comparing D1 and D2 with the key features of the claimed invention, the patent is refused under Section 2(1)(ja) on the ground that it lacks inventive step and is obvious taking into account the disclosures in D1 and D2 and the knowledge of a person skilled in the art.

Contentions of the Appellant

13. None of the prior arts D1 and D2, individually or in combination, disclose the features of the refused independent claim 1. Further, the technical problem and technical advances of the prior arts D1 and D2 differ from the present invention. D1 relates to a system for short pulse laser eye surgery. The system includes a short pulse laser system, a surgical microscope, a control unit and a housing. The short pulse laser system includes a short pulse laser source, a beam guidance device and an applicator head for directing a short pulse laser radiation from the short pulse laser source to the eye to be operated on. The surgical microscope has a microscope head and the control unit is adapted to control the system for short-pulse laser eye-surgery system. The housing encloses at least the short pulse laser source and supports two articulated arms with the microscope head coupled to the first arm and the applicator head to the second. An



interface allows the applicator head and microscope head to be releasably connected both mechanically and optically. The beam-guidance device passes through the second arm and both heads can move independently within a three-dimensional volume while remaining connectable via the interface. D1 solves the problem of integration of femtosecond lasers and surgical microscopes to avoid repositioning of the patient and avoid restriction in the movement of the applicator head.

14. D2 relates to a device for cutting a human or animal tissue such as cornea or lens which comprises of a femtosecond laser capable of emitting a beam L.A.S.E.R. in the form of pulses and means adapted to direct and focus the said beam on the tissue for its cutting while in the present invention, the device comprises means for shaping the beam L.A.S.E.R., positioned on the path of said beam and is able to modulate the energy distribution of the beam L.A.S.E.R. in its focal plane, corresponding to the plane of the cut. D2 solves the problem of slow and tedious femtosecond laser cutting during ophthalmic surgeries, particularly, for corneal grafting or cutting application. D2 solves the deficiency of traditional process that is lengthy, which results in a cutting time that can extend up to 40 minutes for an 8 mm corneal lamella. D2 seeks to improve the speed of the surgical operations.

15. Therefore, both D1 and D2, individually or in combination fail to disclose a means for measuring a polarisation variation of the treatment laser beam and a means for modifying the polarisation of the laser between an input end and an output end of the optical coupler. Present invention solves the problem by maintaining full power and quality of the modulated treatment laser beam regardless of the position and orientation of the



shaping system relative to the laser source and therefore, refusal of the patent on the ground that a person skilled in the art, with knowledge of components and systems disclosed in D1 and D2 will be able to combine these elements to achieve the present invention, is wholly illegal.

16. Respondent has not provided any reasoning as to how the present invention would be obvious to the person skilled in the art. In ***Agriboard International LLC v. Deputy Controller of Patents and Designs, 2022 SCC OnLine Del 940***, this Court held that while considering a patent application, Controller must consider three elements: (a) invention disclosed in the prior art; (b) invention disclosed in the application under consideration; and (c) manner in which subject invention would be obvious to a person skilled in the art and in decision dated 26.09.2025 in ***Neeraj Gupta v. The Controller of Patents and Designs, C.A.(COMM.IPD-PAT) 29/2023***, Court re-affirmed this position. Despite this, there is no consideration whether the present invention would be obvious to a person skilled in the art. In ***F. Hoffman-La Roche Ltd & Anr. v. Cipla Ltd., 2015 SCC OnLine Del 13619***, the Division Bench emphasised that five steps must be strictly followed for determining whether the claimed invention lacked inventive step/obviousness and in ***Tapas Chatterjee v. Assistant Controller of Patents and Designs and Another, 2025 SCC OnLine Del 6369***, it was underscored that the five steps must mandatorily be followed in sequence. In the present case, Respondent has neither followed the three steps elucidated in ***Agriboard International (supra)*** nor the five steps enumerated in ***F. Hoffman (supra)***.

17. Impugned order has been passed without due application of mind inasmuch as Respondent has failed to consider a crucial fact that D1 and D2



were cited in the International Search Report (ISR) of the corresponding PCT Application as Category ‘A’ documents. Category ‘A’ documents indicate that cited document were considered as background art, relevant for understanding general state of the art, but not directly affecting the patentability of the claimed invention. Further, D1 and D2 were also cited by US Patent Office during examination of corresponding US patent application, which has been granted patent by the US Patent Office. Written opinion of ISA filed with the appeal specifically acknowledges the inventive step of claimed invention in light of disclosures in D1 and D2, which has been completely ignored by the Respondent. In the hearing notice, Respondent merely reiterated contents of the FER without any reasoned analysis. FER only reproduced excerpts from prior art documents and fails to substantiate how claimed invention lacked inventive step and it was only at the stage of passing the impugned order that Respondent attempted to articulate an analysis of claimed invention’s features in D1 and D2. Moreover, Appellant’s submissions were not taken into consideration during hearing as also those given in written submissions filed on 15.10.2024 post the hearing. It is trite that an order cannot sustain if it does not deal with party’s submissions and/or suffers from non-application of mind. **[Ref.: *Qualcomm Incorporated v. Controller of Patents and Others*, 2023 SCC OnLine Del 4308 and *Intercontinental Great Brands LLC and Another v. Assistant Controller of Patents and Designs*, in (T)CMA(PT) No. 182/2023, decided on 09.02.2024].**

18. In stark contrast, claimed invention posits both technical and/or economic significance over the cited prior arts. While dealing with the invention and comparing with the prior arts, the invention ought to have



been considered as a whole and it is not sufficient to draw a conclusion that claimed invention is obvious merely because individual parts of the claims taken separately are known or might be found to be obvious. **[Ref.: Manual of Patent Practice and Procedure-2019]**. The technical problem solved by the claimed invention is to avoid disturbances during the transmission of the laser beam between the laser source and shaping system. Since the shaping system is sensitive to polarization of the laser beam, this polarization variation induces a reduction in the power of the modulated laser beam at the output of the shaping system. The modification of polarization of the treatment laser beam entering the shaping system degrades the quality of the modulated signal at the output of the shaping system. This technical problem is not solved by D1, which relates to a system for short pulse laser eye surgery and solves integration of femtosecond lasers and surgical microscopes to avoid repositioning of the patient and restriction in the movement of the applicator head.

19. Respondent has failed to appreciate that D1 solves a totally different problem than the present invention, which corresponds to maintaining full power and quality of the treatment laser beam, irrespective of the position and orientation of the shaping system relative to the laser source and hence, D1 does not disclose a polarization corrector, which modifies polarization of the laser. Present invention as claimed in claim 1 relates to an apparatus for cutting human or animal tissue, such as a cornea or a lens and may include a laser source, a shaping system, an optical coupler and a polarization corrector. The invention provides an efficient and accurate cutting apparatus and enables maintaining full power of the modulated laser beam regardless of the position and orientation of the shaping system. Moreover, D1 fails to



teach or suggest measuring a polarization variation of the treatment laser beam across the optical coupler and modification of the polarization of the treatment laser beam based on the measure variation. In other words, D1 does not disclose the means for measuring a polarization variation between an input end of the optical coupler and an output end of the optical coupler and a means for modifying the polarization of the treatment laser beam upstream of the optical coupler so as to compensate for the measured polarization variation, as claimed in pending independent claim 1.

20. Reference to prior art D2 by the Respondent was equally misconceived. D2 aims to solve a problem of slow and tedious femtosecond laser cutting during ophthalmic surgeries, particularly, for corneal grafting or cutting applications. D2 solves the deficiency of traditional process that is lengthy, which results in a cutting time that can extend up to 40 minutes for an 8 mm corneal lamella. D2 seeks to improve the speed of the surgical operations. D2 does not disclose a polarization corrector and also fails to disclose or suggest that the optical coupler includes a PCF, as claimed in independent claim 1, and also fails to teach or suggest measuring a polarization variation of the treatment laser beam across the optical coupler and modification of the polarization of the treatment laser beam based on the measured variation. D2 discloses an operation such as beam L.A.S.E.R. emitted by the laser, which is directed and focused to the cornea to be cut through a plurality of optical elements but does not disclose that the polarization corrector is able to modify the polarization if the treatment laser beam measures variation. D2 does not disclose means for measuring a polarization variation between an input end and output end of the optical coupler so as to compensate for the measured polarisation variation.



21. Respondent's assertion that a person skilled in the art would be able to implement a solution which involves measuring the polarisation variation post-fiber and actively correcting pre-fiber is incorrect as no such instance is found in the cited prior arts D1 and D2 which teach or suggest that a person skilled in the art will be motivated to modify the polarization so as to compensate for the measured variation in polarization between an input and an output end of the optical coupler. Respondent's reliance on features such as PCF and polarization variation is based on sheer hindsight. Without understanding the objective of the invention, Respondent relied on the elements in prior arts which do not relate to or fulfil the criteria of the person skilled in the art to reach at the desired technical problem and overcome the same. It is settled that there cannot be an analysis on a hindsight approach. Respondent has completely erred in overlooking the differences between the present invention and prior arts D1 and D2 and the matter needs to be remanded for fresh consideration.

Contentions on behalf of Respondent

22. There is no infirmity in the impugned order warranting interference by this Court. Appellant's claimed invention relates to an apparatus for cutting human or animal tissue, such as cornea or lens in independent claim 1. Amended Claims 2 to 8 are dependent claims. After careful analysis of all documents and relevant records, patent application has been rightly refused by a detailed and well-reasoned order. In the FER issued on 08.03.2024, objection was raised under Section 2(1)(ja) referring two prior arts D1 and D2 and full opportunity of hearing was afforded to the Appellant. After detailed analysis, Respondent concluded that the claimed invention lacks inventive step in view of combined teachings of prior art D1 and D2 since



the claimed invention included features known in the prior arts and which are obvious to the person skilled in the art.

23. Appellant's primary contention of inventiveness rests on specific arrangement of a polarization corrector that measures and compensates for polarization variations introduced by an optical coupler containing a PCF. However, these features are explicitly disclosed and/or rendered obvious by D1 and D2. Appellant's claim, an active feedback loop to correct polarization variations introduced by a PCF, is not an inventive leap but rather a predictable and logical solution to a well-known problem that would be obvious because of the combination of teachings of D1 and D2. The person skilled in the art in this technical field would be a team or an individual with expertise in ophthalmic laser systems, optical engineering and femtosecond laser physics. Such a person would be knowledgeable about the design of surgical laser delivery systems, the properties of optical components and standard engineering practices for stabilizing laser beam parameters using feedback control systems.

24. Prior art D1 teaches a comprehensive system for short-pulse laser eye surgery. Crucially, D1 explicitly discloses the use of PCF with a hollow core as a flexible and effective beam guidance tool. D1 also discloses a control unit and measurement systems like an OCT module and beam path stabilization, to ensure the precision and quality of the laser beam delivered to the target tissue. D2 is directed toward improving the cutting efficiency of a femtosecond laser. It achieves this through beam shaping using SLM and explicitly teaches the use of components for managing the polarization of the laser beam, namely a half-wave plate and a polarizing cube. The importance of a specific polarization state is inherent for the optimal



functioning of polarization-sensitive components like SLM. A person skilled in the art seeking to create a state-of-the-art laser eye surgery system, would be motivated to combine the teachings of these documents. The person skilled in the art would start with D2's efficient cutting and beam shaping technology and seek to integrate it into a complete, flexible surgical system as taught by D1. The person skilled in the art would recognize the benefit of using the flexible PCF for beam guidance, as taught by D1. Even D1 explicitly teaches that beam guidance can also be realized through the entity of different components, as follows:-

"...The beam guide means ensures that the short pulse laser radiation emitted from the short pulse laser source is directed from the system in a provided manner to an exit location of the short pulse laser radiation, here the objective movable in the x and y-direction. The beam guidance means can also be realized through an entirety of different components."

25. As rightly placed by the Respondent, on incorporating PCF from D1 into the system of D2, the person skilled in the art would immediately recognize the well-known technical problem i.e optical fiber including PCF, can introduce unpredictable variations in the polarization state of the light passing through them. Since the beam shaping system SLM from D2 is sensitive to input polarization, maintaining a stable and desired polarization state at the output of the PCF is not an inventive concept but a necessary and foreseeable engineering requirement. Therefore, the person skilled in the art would be directly motivated to implement a solution. The solution would obviously involve measuring the polarization variation post-fiber and actively correcting it. This concept of a feedback loop is a fundamental principle in optics and control systems. The components to achieve this polarization management optics (taught in D2) and a control system (taught



in both D1 and D2) are readily available in the art. A comparison of the characterized portion of the claimed invention with the corresponding features of D1 and/or D2 would reveal that every constituent element as well as the alleged inventive concept is present in the prior arts, as follows:-

Alleged Inventive/Characterized Features of the claimed invention	Corresponding feature(s) in D1 and/or D2
Claim 1: the optical coupler includes a <u>photonic crystal fiber</u> (31) and in that	“It is also advantageous if the beam guidance means passing through the second articulated arm of the system for implementing a short pulse laser eye surgery has a <u>PHOTONIC CRYSTAL FIBER</u> with a hollow core. Such a photonic crystal fiber particularly fulfills the condition that the beam guidance means shall follow all movements of the second articulated arm and shall guide the short pulse laser radiation to their exit location on the applicator head with the <u>same quality in any position of the second articulated arm.</u>” “In a special embodiment variant, the second articulated arm 130, on which the applicator head 220, is complemented by a <u>photonic crystal fiber</u> with a hollow core as beam guidance means 230.” Claim 83. “The system for a short pulse laser eye surgery according to claim 73, wherein the beam guidance device comprises a <u>photonic crystal fiber</u> with a hollow core.”
the polarization corrector (7) comprises: • <u>means (71) for measuring a polarization variation</u> between 25 an input end of the optical coupler (3) and an output end of the optical coupler (3), and • means (72) for modifying the polarization of the treatment laser beam (11) upstream of the optical coupler (3) so as to compensate	“The <u>coupling</u> of the radiation of the OCT light source via the applicator head has the advantage that it can be superposed with the therapeutic short pulse laser radiation in a simple and mechanically stable manner. <u>Both beam paths can thus be calibrated to each other. This variant is therefore used in practice for the planning and control of the short pulse laser treatment</u>”.



for the measured polarization variation.	“...These are balanced by an automatic beam tracking, which measures the deviations and readjusts the position of the laser beam...” According to the invention, the beam guidance means for the short pulse laser radiation passes through the second articulated arm. The beam guide means is thereby configured in such a manner that it can follow all movements of the second articulated arm and <u>can guide the short pulse laser radiation</u> to its exit location on the applicator head <u>in each position of the second articulated arm with the same quality.</u>” The beam L.A.S.E.R. (4) issuing from the half wave plate (6) then passes through a <u>polarizing cube (7)</u> also known from the state of the art, <u>making it possible to separate the random polarization of the beam L.A.S.E.R (4)</u> into two orthogonal and <u>linear polarization components.</u>
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26. Respondent was not bound by grant of patent by the US patent office. It is true that decisions from other patent offices may have persuasive value but they do not have a binding force in India and therefore, grant of patents in other jurisdiction can be of no aid to the Appellant. Furthermore, the initial “A” categorization of documents D1 and D2 in ISR is preliminary and not binding on the assessment of inventive step during the National Phase examination. International Searching Authority (ISA)’ opinion is also not binding on the Respondent. Respondent has carefully and independently examined how a person skilled in the art, faced with the technical problem the invention seeks to solve, would be motivated to integrate the teachings of D1 with the teachings of D2. Having found the claimed invention to be



obvious, Respondent was obliged to refuse it in law, regardless of any contrary preliminary opinions.

Findings

27. Present invention relates to a cutting apparatus with optical coupler including a polarization corrector. By the impugned order, Respondent has refused to grant the patent under Section 2(1)(ja) for lack of inventive step owing to prior art documents D1 and D2. Extensive arguments have been made by counsels for the parties on violation of procedure and principles of natural justice as also on merits. The first and foremost argument of the Appellant is that Respondent has failed to follow the three steps laid down by this Court in *Agriboard International (supra)*, for determining lack of inventive step as also the five steps elucidated by the Division Bench of this Court in *F. Hoffman (supra)*. In *Tapas Chatterjee (supra)* another Division Bench of this Court reiterated the mandate of following the five steps and emphasized they must be followed sequentially. The five steps are as follows:-

“Step No. 1 To identify an ordinary person skilled in the art,

Step No. 2 To identify the inventive concept embodied in the patent,

Step No. 3 To impute to a normal skilled but unimaginative ordinary person skilled in the art what was common general knowledge in the art at the priority date.

Step No. 4 To identify the differences, if any, between the matter cited and the alleged invention and ascertain whether the differences are ordinary application of law or involve various different steps requiring multiple, theoretical and practical applications,

Step No. 5 To decide whether those differences, viewed in the knowledge of alleged invention, constituted steps which would have been obvious to the ordinary person skilled in the art and rule out a hindsight approach.”

28. In the instant case, impugned order clearly reflects that the five steps have not been followed and the Respondent has not even identified the



ordinary person skilled in the art and has simply noted that “*the claimed methods for polarization variation measurement and modification as a minor constructed alteration that falls within the bounds of the usual procedure used by an expert in the field at the time of filing*”. This apart, Respondent has failed to allude to the source of common general knowledge and demonstrate a link between the prior arts and claimed invention to show how it is obvious without any hindsight analysis. Impugned order reflects a hindsight re-construction by using the claimed invention through the maize of prior arts, which is legally untenable.

29. Appellant is also right in contending that Respondent has overlooked a crucial fact that prior arts D1 and D2 were cited in ISR of corresponding PCT application as Category ‘A’ documents, which means that they were considered as background art, relevant for understanding the general state of the art and moreover, both D1 and D2 were also cited by US Patent Office in examination of corresponding US patent application, which has since been granted patent by the US Patent Office. Appellant has also brought forth that written opinion of ISA specifically acknowledges the inventive step of claimed invention in light of disclosures in D1 and D2. While Ms. Raman is right in contending that decisions granting patents in other jurisdictions do not have a binding effect but they are certainly persuasive and ought to have been considered by the Respondent, which has not been done.

30. It also needs to be noted that in response to the objection raised in the FER as also during hearing and in the detailed written submissions filed post the hearing, Appellant had brought out several significant differences between the claimed invention and prior arts D1 and D2. It was brought



forth that the present application posits both technical and/or economic significance over the cited prior arts. Prior art D1 solves a different problem and discloses to solve integration of femtosecond lasers and surgical microscopes to avoid repositioning of the patent and restriction in the movement of the applicator head. D1 relates to a system of short pulse laser eye surgery and includes a short pulse laser system, a surgical microscope, a control unit and a housing. The short pulse laser system includes a short pulse laser source, a beam guidance device and an applicator head for directing a short pulse laser radiation from the short pulse laser source to the eye which is to be operated. The surgical microscope has a microscope head and the control unit is adapted to control the system for a short pulse laser eye surgery. The system comprises an interface between the applicator head and microscope head. On the other hand, claimed invention corresponds to maintaining full power and quality of the treatment laser beam irrespective of position and orientation of the shaping system relative to the laser source and most importantly, has a polarization corrector which is able to modify the polarization of the laser, which feature is completely absent in D1. D1 also fails to disclose or suggest that the optical coupler includes PCF, as claimed in independent claim 1 and fails to teach measuring of polarization variation of the treatment laser beam across the optical coupler and modification of polarization based on the measured variation. In other words, as per the Appellant, D1 does not disclose a means for measuring polarization variation between an input end and an output end of the optical coupler and a means for modifying the polarization of the treatment beam upstream of the optical coupler so as to compensate for measured polarization variation, as claimed in independent claim 1.



31. Appellant also brought forth that prior art D2 aims to solve a problem of slow and tedious femtosecond laser cutting during ophthalmic surgeries, particularly, for corneal grafting or cutting application and solves the deficiency of traditional process that is lengthy and which results in a cutting time that can extend upto 40 minutes for an 8 mm corneal lamella. Therefore, D2 seeks to improve the speed of surgical operations and does not solve the problem that claimed invention solves i.e., maintaining full power and quality of treatment laser beam irrespective of the position and orientation of the shaping system relative to the laser source and does not disclose a polarization corrector, which is the inventive feature and technological advancement, according to the Appellant in the claimed invention.

32. Broadly understood, case of the Appellant is that cited prior arts D1 and D2 give no indication or direction to a person skilled in the art to modify the polarization of the treatment laser beam upstream of the optical coupler so as to compensate for measured polarization variation and the claimed invention is beyond reasonable expectation of success and not a matter of routine testing or optimization. In ***The Procter & Gamble Company v. Teva Pharmaceuticals USA***, 566 F.3d 989 (Fed. Cir. 2009), it was held:-

“Additionally, there was an insufficient showing that a person of ordinary skill in the art would have had a “reasonable expectation of success” in synthesizing and testing risedronate. PharmaStem , 491 F.3d at 1360. In KSR , the Supreme Court stated that when an obvious modification “leads to the anticipated success,” the invention is likely the product of ordinary skill and is obvious under 35 U.S.C. § 103. 127 S. Ct. at 1742. “[O]bviousness cannot be avoided simply by a showing of some degree of unpredictability in the art so long as there was a reasonable probability of success.”

When a person of ordinary skill is faced with “a finite number of identified, predictable solutions” to a problem and pursues “the known



options within his or her technical grasp,” the resulting discovery “is likely the product not of innovation but of ordinary skill and common sense.” So too, “[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress.” In other cases, though, researchers can only “vary all parameters or try each of numerous possible choices until one possibly arrive[s] at a successful result, where the prior art [gives] either no indication of which parameters [are] critical or no direction as to which of many possible choices is likely to be successful.” In re O’Farrell , 853 F.2d 894, 903 (Fed. Cir. 1988). In such cases, “courts should not succumb to hindsight claims of obviousness.

Similarly, patents are not barred just because it was obvious “to explore a new technology or general approach that seemed to be a promising field of experimentation, where the prior art gave only general guidance as to the particular form of the claimed invention or how to achieve it.”

33. It is rightly contended by the counsel for the Appellant that ‘routine optimization’ and ‘obvious to try’ approaches fundamentally relate to the idea of predictability and since the invention is based on a technical advancement, person skilled in the art must be in a position to predict the claimed invention, without unduly straining his imaginative and creative faculties before a patent application is refused on ground of obviousness. Perusal of the impugned order shows that while the Respondent has noted the alleged differences brought forth by the Appellant in the prior arts and the claimed invention, more particularly, the contention that D1 and D2 do not disclose polarization corrector for modifying polarization of treatment laser beam upstream of the optical coupler so that polarization of treatment laser beam downstream of the optical coupler corresponds to a desired reference polarization, they have not been dealt with and without even identifying the person skilled in the art, Respondent has arrived at a conclusion that a person skilled in the art, with knowledge of the components and systems disclosed in D1 and D2, will be able to combine



these elements to achieve the present invention. To my mind, *sans* this analysis, impugned order cannot be sustained and this is a fit case for remand.

34. Accordingly, this appeal is allowed and impugned order dated 12.02.2025 is set aside. Respondent is directed to consider patent application No.202217006198 in respect of claimed invention titled '*Cutting Apparatus with Optical Coupler including a Polarisation Corrector*', afresh without being influenced by the impugned decision. Decision will be taken by the Respondent within a period of four months from today, after granting opportunity of hearing to the Appellant and considering all points raised in the response to the FER as also the post-hearing written submissions. It is made clear that this Court has not expressed any opinion on the merits of the case.

35. Appeal stands disposed of in the aforesaid terms.

JYOTI SINGH, J

MARCH 16, 2026

S.Sharma