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

Pronounced on: 19th May, 2025

\+ **CS(COMM) 245/2017 & CC(COMM) 54/2017, I.A. 7004/2013**

DURA-LINE INDIA PVT LTD .....Plaintiff

Through: Mr. Neel Mason, Mr. Essenese Obhan, Mr. Siddharth Vardhman, Mr. Ankit Rastogi, Ms. Nandini Chowdhry and Mr. Shivam Issar, Advocates.

versus

JAIN IRRIGATION SYSTEMS LTD. .....Defendant

Through: Mr. J. Sai Deepak, Mr. Mahua Roy Choudhary, Mr. R. Abhishek and Mr. Avinash Sharma, Advocates.

CORAM:
HON'BLE MR. JUSTICE SANJEEV NARULA

JUDGMENT

SANJEEV NARULA, J.:

1. This lawsuit is based on claims of infringement of Indian Patent No. IN 199722[1] and Design Registration No. 192665 both pertaining to a non-metallic pipe assembly embedded with a co-extruded tracer cable. The Plaintiff contended that the Defendant's products replicate the essential features of its patented invention and protected design, thereby violating its statutory rights. The Defendant not only denies infringement but also assails the validity of the Suit Patent itself, citing lack of novelty, absence of

[1] "the Suit Patent"

inventive step, and insufficient disclosure under Section 64 of the Patents Act, 1970.[2] The crucial question to be determined is whether the Plaintiff's claimed invention constitutes a genuine technical advance meriting patent protection, or whether it amounts to no more than a routine and obvious refinement of pre-existing knowledge.

The Controversy

2. Indian Patent No. IN 199722, relates to a pipe assembly designed to aid in traceability and leakage detection. The patented invention comprises a non-metallic pipe for transporting fluids, on whose outer surface a tracer cable is co-extruded and encased in a suitable polymer material. According to the Plaintiff, this configuration enables precise underground location and leak identification while preserving the pipe's structural strength. The invention has been commercially exploited under the trademark "Dura Trac" since 2007. As per statutory requirement, the Plaintiff had filed Form-27 for the year 2012, giving a statement regarding the working of the patented invention and disclosing manufacturing to the tune of INR 3,00,66,810/-.

3. The dispute stems from a tender floated for the Omkareshwar Lift Irrigation Scheme, which called for the supply and installation of HDPE pipes with an underground detectability feature, including a co-extruded copper wire running along the pipe's length. On 25th November, 2011, the Plaintiff was approached *via* email to submit a competitive proposal, to which they responded on 5th December, 2011, by offering products based on the patented invention. Shortly thereafter, the Plaintiff came across an article dated 11th December, 2012 in the Hindustan Times, Indore edition, wherein

[2] "the Patents Act"

representatives of the Defendant claimed to have already supplied pipes for the said project.

4. Perturbed by this development, the Plaintiff filed the present suit alleging that the Defendant's products, marketed as "B-Sure Polyethylene (PE) and Polypropylene (PP) Sewerage Pipes" and "Jain Insta Tracer Pipes" – incorporate all the essential features of the Suit Patent, thereby infringing the statutory rights granted under Section 48 of the Patents Act.

5. The Defendant refutes the charge of infringement and has, in turn, laid challenge to the validity of the Suit Patent. In their counter-claim, the Defendant invokes Sections 64(1)(e), (f), (h) and (i) of the Patents Act, asserting that the patent lacks novelty, does not involve an inventive step, and suffers from insufficient disclosure. It is argued that the patented configuration merely substitutes known alternatives without disclosing any real technical advancement. The Defendant also contests the claim of design infringement and seeks dismissal of the Plaintiff's plea for rendition of accounts, contending that such relief is barred by the framework of the Indian Evidence Act, 1872[3] and the Code of Civil Procedure, 1908.[4]

Parties to the Suit

6. The Plaintiff, Dura-Line India Private Limited, is a wholly owned subsidiary of Dura-Line International Inc., a company headquartered in Knoxville, Tennessee, United States of America. The parent company claims over three decades of expertise in developing infrastructure solutions for the telecommunications industry, driven by research and development

[3] "the Evidence Act"
[4] "CPC'

capabilities, and a diverse portfolio of advanced technologies tailored to varied site conditions. It operates several ISO 9001-certified manufacturing facilities in the United States of America and maintains a global footprint through subsidiaries in India, the Czech Republic, Oman, and Mexico.

7. In India, the Plaintiff operates two manufacturing units, one in Goa and another in Neemrana, Rajasthan. It is certified under ISO 9001:2000 and ISO 14001 standards. The Plaintiff describes themselves as a leading international manufacturer and distributor of infrastructure systems, including conduit, cable-in-conduit assemblies, water pipes, and related accessories, catering to the sectors of communication, energy and water.

8. The Defendant, Jain Irrigation Systems Limited,[5] describes themself as the largest manufacturer of plastic pipes in India and among the top five globally in the manufacture of PVC and PC sheets. JISL states that they are the only manufacturer to own a Research and Development facility equipped with advanced testing infrastructure and approved by the Department of Scientific and Industrial Research. They have been engaged in the production of Polyethylene pipes[6] and corrugated plastic pipes used in pipeline networks for gas, liquids, solids, and other applications for over 25 years.

Technological Context and the Claimed Solution

9. The Plaintiff asserts that the invention disclosed in the Suit Patent effectively addresses longstanding practical difficulties associated with the location and leak detection of buried non-metallic fluid transport pipes. It is

[5] "JISL"
[6] "PE Pipes"

asserted that such pipes are typically laid by Municipal Authorities for various utilities, including gas, water, and sewerage, extending from treatment plants to residential or commercial premises. Being buried under the earth, identifying the precise location of these pipes has historically been problematic. While metallic pipes may be located using magnetometers or through the application of radio frequency signals detectable by suitable sensors, such methods are inapplicable to non-metallic pipes. For plastic pipes, tracer wires were traditionally either taped around the pipe, laid alongside it, inserted within it, or omitted altogether.

10. The Plaintiff submitted that these conventional techniques involving loose tracer cables are inadequate, as such cables are prone to damage, may deviate from the actual alignment of the pipe, or may not be situated within the same trench. Tracer wires bonded adhesively to the pipe surface often separate during transport and installation. Inserting tracer cables within the pipe wall compromises its pipe strength, necessitating the addition of stabilizing ribs which, in turn, increase material consumption and manufacturing costs. Pipes incorporating such additional reinforcements are not ideal for fluid transport due to the reduced strength of the pipe walls.

11. Moreover, in the event of a leakage, it becomes imperative to accurately determine both the location of the pipe and the precise point of leakage in order to undertake effective repair or replacement. Thus, the problem is two-fold: first, to locate the non-metallic pipe itself, and second, to pinpoint the location of the leak along its length.

12. Therefore, there was a need to develop a simple, economical, and practical system that can both locate and detect leakages in a non-metallic

pipe. The invention, as claimed in the Suit Patent, comprises a pipe with a co-extruded tracer cable positioned on its outer surface. Such a pipe can transport fluids and is capable of traceability and leakage detection without compromising on the strength of the pipe. The claimed invention design also facilitates ease of installation and reliable coupling with adjacent pipe segments.

Suit Patent: IN 199722 (Application No. 927/DEL/2003)

13. The Plaintiff asserts that they developed a novel pipe assembly incorporating features for traceability and leakage detection and, on 25th July, 2003, applied for a patent for the said invention. The patent application bearing No. 927/DEL/2003 was granted after a detailed examination and was ultimately registered as Indian Patent No. IN 199722, titled "*A Pipe Assembly Having Traceability and Leakage Detection Features*". The patent was recorded in the Register of Patents on 30th August, 2007, and remained valid for a period of 20 years from the date of application, and expired on 25th July, 2023.

14. The Suit Patent comprises a total of 11 claims, 8 apparatus claims and 3 method claims, of which Claims 1 and 9 are independent. The Plaintiff asserts that no pre-grant or post-grant opposition was ever filed against the Suit Patent. For ease of reference, the claims are reproduced below:

> "*Claim 1:*
> *A pipe assembly having traceability and leakage detection features for locating and detecting leakage in said pipe assembly comprising:*
> *- a non-metallic pipe (10) to transport fluids,*
> *- a co-extruded tracer cable (40) on said non-metallic pipe to which pulses are applied to locate said non-metallic pipe and detect leakage on the same,*

- said co-extruded tracer cable being encased in suitable polymer material (20).

Claim 2:
A pipe assembly as claimed in claim 1 wherein said cable is provided with means for generating and applying pulses.

Claim 3:
A pipe assembly as claimed in claim 2 wherein said means for generating and applying pulses to said cable is a pulse generator.

Claim 4:
A pipe assembly as claimed in claim 1 wherein said cable is provided with means for receiving reflections of said pulses.

Claim 5:
A pipe assembly as claimed in claim 4 wherein said means for receiving reflections of said pulses is an oscilloscope.

Claim 6:
A pipe assembly as claimed in claim 1 wherein said pipe is made of high-density polyethylene (HDPE).

Claim 7:
A pipe assembly as claimed in claim 1 wherein said cable is made of any suitable metal. Claim 8: A pipe assembly as claimed in claim 1 wherein said means for joining the two tracer cables of adjacent pipes is a flexible multistrand cable with tubular metal lugs at its ends for crimping and to insulate the ends of the tracer cable.

Claim 9:
A method of locating a concealed or underground non-metallic pipe as claimed in claim 1, and detecting a leak thereof, comprising the steps of:
- connecting the co-extruded cable on said non-metallic pipe to a signal generator, - passing signal through the said cable by the signal generator,
- sensing the signal on the surface by means of any known sensing device, thereby locating the pipe,
- connecting the co-extruded cable on said non-metallic pipe to a pulse generator, - passing pulses through the said cable by the pulse generator,
- receiving reflections of said pulses from said cable,

- analyzing said reflections to determine presence of leak and its position.

Claim 10:
A pipe assembly having traceability and leakage detection features substantially as herein described with reference to and as illustrated by the accompanying drawings.

Claim 11:
A method of locating a concealed or underground non-metallic pipe and detecting a leak thereof substantially as herein described with reference to and as illustrated by the accompanying drawings."

15. On a bare reading of the claims, particularly Claim 1, which serves as the independent claim, it is evident that the novelty and inventive step of the Suit Patent lie in the combination of the following elements of the Plaintiff's pipe assembly:

(a) a non-metallic pipe (10) to transport fluids;

(b) a co-extruded tracer cable (40) on said non-metallic pipe to which pulses may be applied to locate said non-metallic pipe and detect leakage on the same;

(c) said co-extruded tracer cable being encased in suitable polymer material (20).

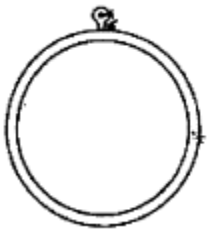
16. These features collectively form the essential constituents of the Plaintiff's invention, enabling the development of a pipe assembly with traceability and leakage detection functionalities, while permitting necessary technical variations or adaptations.

17. Accordingly, if any third-party manufactures, uses, or distributes a pipe assembly incorporating the same combination of features as set out above, it would constitute an infringement of Patent No. 199722, which was

validly registered in the name of the Plaintiff at the time of filing of the present suit.

Plaintiff's Registered Design No. 192665

18. In addition to the patent protection, the Plaintiff has also secured registration of the industrial design titled "Detectable Pipe" under Design Registration No. 192665, which corresponds to the Suit Patent. A representation of the registered design, as presented in the plaint, is as follows:



19. Therefore, the unauthorized use or imitation of the said design by any third party would amount to infringement of the Plaintiff's statutory rights in Design No. 192665, as protected under the Designs Act, 2000.[7]

Case Management Proceedings

20. Upon service of summons, the Defendant appeared and contested the suit by filing a written statement accompanied by a counter-claim seeking revocation of the Suit Patent. In response, the Plaintiff filed its written statement to the counter-claim, followed by a replication filed by the Defendant.

21. On consideration of the pleadings, by order dated 5th October, 2016, the Court framed the following issues:

"***In suit:***

(i) Whether the plaintiff is the proprietor of the invention titled as "A Pipe Assembly Having Traceability and Leakage Detection Features" bearing Patent Registration no.199722? ***OPP***

(ii) Whether the plaintiff is the proprietor of the Design for pipe having a coextruded cylindrical structure bearing Design Registration no.192665? ***OPP***

(iii) Whether the defendants" adoption and use of the products "B-Sure Polythene (PE)" and "Polypropylene (PP)" amounts to infringement of the plaintiff's Registered Patent no.199722? ***OPP***

(iv) Whether the defendants" adoption and use of the products "B-Sure Polythene (PE)"and "Polypropylene (PP) Sewerage Pipes and "Jain Insta Tracer Pipes" amounts to infringement of the plaintiff's Registered Design no.192665? ***OPP***

(v) Whether the plaintiff played a fraud on the Indian Patent Office while obtaining grant of patent? ***OPD***

(vi) Relief.

In Counter Claim:

i. Whether for the reasons stated in the counter claim the patent of the plaintiff is liable to be revoked? ***OPCC***

ii. Relief."

22. By order dated 23rd October, 2019, it was clarified that Issue No. 3 would encompass examination of infringement of the Suit Patent in relation to both of the Defendant's products, "B-Sure Polyethylene (PE) and Polypropylene (PP) Sewerage Pipes" and "Jain Insta Tracer Pipes."

23. The Plaintiff, in support, examined two witnesses: Mr. Davender Kumar Sharma [PW-1] and Dr. Prasanta Kumar Tripathy [PW-2], in

[7] "the Designs Act"

addition to placing documentary evidence on record. The Defendant, in turn, examined Mr. Gautam Ray [DW-1] and Mr. J. Wadhwani [DW-2] in support of their counter-claim and defence.

Issue Wise Analysis

24. Upon a comprehensive consideration of the pleadings, oral testimony, and documentary record, the Court now proceeds to examine the issues framed for determination.

Issue No. (i)- Whether the Plaintiff is the proprietor of the invention titled as "A Pipe Assembly Having Traceability and Leakage Detection Features" bearing Patent Registration No. 199722? OPP

25. The grant of a patent by the Controller of Patents under the Patents Act constitutes *prima facie* evidence of proprietorship. Section 67 of the Patents Act mandates the maintenance of a Register of Patents, which records, *inter alia*, the name and address of the patentee and confers evidentiary value on certified entries. Once a patent is granted and registered in the name of an applicant, the burden of disproving proprietorship lies on the party asserting otherwise.

26. The Plaintiff has placed on record a certified copy of the Patent Certificate and the complete specification of Indian Patent No. 199722 [Exhibit PW-2/1], evidencing that the invention titled "*A Pipe Assembly Having Traceability and Leakage Detection Features*" was registered on 30th August, 2007, pursuant to their application dated 25th July, 2003. The entry in the Register of Patents reflects the Plaintiff as the patentee. This document stands duly exhibited through the deposition of Dr. Prasanta Kumar Tripathy [PW-2].

27. Although PW-2 conceded in cross-examination that he was not personally involved in the invention, the Defendant has not adduced any evidence to dispute the Plaintiff's proprietorship. Mere lack of inventorship on the part of the deponent is immaterial so long as the legal and beneficial title to the patent is vested in the Plaintiff, which remains unchallenged on record.

28. Further corroboration is found in the affidavit of Mr. Davender Kumar Sharma [PW-1], who affirmed that the Plaintiff continues to be the registered proprietor of the Suit Patent. The Plaintiff has also established that the patent has been commercially worked in India under the trademark "Dura Trac", and Form 27 for the year 2012, detailing the quantum and value of the patented product manufactured in India, has been placed on record [Exhibit PW1/D1].

29. In the absence of any challenge to the Plaintiff's title, or evidence to the contrary, the Court finds no reason to doubt the Plaintiff's proprietorship. The statutory presumption in favour of the registered patentee remains unrebutted.

30. Accordingly, Issue No. (i) is decided in favour of the Plaintiff and against the Defendant. The Plaintiff is held to be the proprietor of Indian Patent No. 199722.

Issue No. (ii)- Whether the Plaintiff is the proprietor of the Design for pipe having a co-extruded cylindrical structure bearing Design Registration No. 192665? OPP

31. The burden of proof on this issue rests squarely with the Plaintiff, who asserts title by virtue of statutory registration. In support of their claim

of proprietorship, the Plaintiff has placed on record the certified copy of the certificate of registration issued by the Designs Office, evidencing registration of the design titled "Detectable Pipe" under No. 192665, dated 25th July, 2003, falling under Class 23-01. The registered design pertains to a pipe having a co-extruded cylindrical structure, with the asserted novelty residing in the surface pattern of the "Detectable Pipe" created by the tracer cable extruded along the length of the pipe. The registration certificate stands duly proved as Exhibit PW-2/2 through the testimony of Dr. Prasanta Kumar Tripathy [PW-2].

32. The Defendant has not instituted any challenge under Section 19 of the Designs Act to seek cancellation of the registration on any of the statutory grounds, nor led any evidence to dispute the Plaintiff's claim of proprietorship in respect of the registered design. No material has been placed on record to suggest that the Plaintiff is not the lawful proprietor of the design or that the registration is invalid or otherwise defective. Indeed, there is not even a suggestion in the cross-examination of PW-2 or otherwise in the Defendant's pleadings that Plaintiff is not the lawful owner of the said design. The statutory presumption under the Designs Act in favour of the registered proprietor, therefore, remains unchallenged.

33. In the absence of any attempt by the Defendant to dispute or dislodge the Plaintiff's proprietary claim, and upon examination of the material placed on record, the Court has no hesitation in holding that the Plaintiff is the registered proprietor of Design No. 192665.

34. Accordingly, Issue No. (ii) is answered in the affirmative and decided in favour of the Plaintiff.

35. Before this Court turns to the question of infringement, it is essential to first examine the validity of the Suit Patent – a foundational issue that strikes at the very root of the Plaintiff's claim. The Defendant, by way of counter-claim, challenges the patent under Section 64 of the Patents Act. Since these objections go to the maintainability of the Plaintiff's action itself, they are addressed at the threshold. Accordingly, Issue No. 5 framed in the suit and Issue No. 1 in the counter-claim are taken up together for consideration.

Issue No. (v)- Whether the Plaintiff played a fraud on the Indian Patent Office while obtaining grant of patent? OPD

***Of counter claim*:**

Issue No. (i)- Whether for the reasons stated in the counter claim the patent of the Plaintiff is liable to be revoked? OPCC

36. Where a patent is challenged on the ground of invalidity, the Court is required to closely scrutinize whether the claimed invention meets the statutory requirements of patentability. The Defendant seeks revocation of the Suit Patent under various limbs of Section 64 of the Patents Act, asserting that the Plaintiff's invention is unworthy of the exclusive rights they claim. The counter-claim, read with the written statement, forms the bedrock of this challenge and is grounded in prior art references said to be in the public domain before the priority date.

37. The four principal grounds urged for revocation are as follows:

i. That the Suit Patent lacks novelty, having regard to what was publicly known or used in India before the priority date, and is liable to be revoked under Section 64(1)(e) of the Patents Act;

ii. That the invention is obvious to a person skilled in the art[8] and does not involve an inventive step, rendering the patent vulnerable under Section 64(1)(f) of the Act;

iii. That the complete specification fails to sufficiently and fairly describe the invention and the manner of its performance, as required under Section 64(1)(h);

iv. That the claims in the specification are not clearly or sufficiently defined, falling afoul of Section 64(1)(i).

38. In order to establish the afore-noted grounds, the Defendant has cited 20 prior art documents which are tabulated as follows:

Sr. No.	**PARTICULARS**	**EXHIBIT NO.**
1	US 2003 / 0094297	EX DW 2 / 1
2	US 5,212,349	EX DW 2 / 2
3	NHAI tender document	EX DW 2 / 3
4	US 4,797,621	EX DW 2 / 4
5	A quick course on magnetic cable and pipe locating;	EX DW 2 / 7
6	3 M Cable and Pipe Locating Techniques	EX DW 2 / 8
7	EP 0159307	EX DW 2 / 9
8	US 5,918, 267	EX DW 2 / 10
9	US 5,151,657	EX DW 2 / 11
10	US 2002 /0134448	EX DW 2 / 12
12	US 6,175,310	EX DW 2 / 14

[8] "PSA"

13	US 5,719,353	EX DW 2 / 15
14	US 3,564,526	EX DW 2 / 16
16	US 5,172,730	EX DW 2 / 18
18	Article titled Automated Electrical Impedance measuring system leaks	EX DW 2 / 20
19	Copy of the Suit Patent 199722	EX PW 2 / 1
20	Copy of the design 192665	EX PW 2 / 1

39. At this juncture, it is must be highlighted that the aforesaid documents have been objected to by the Plaintiff at the time of tendering of documents by Mr. J. Wadhwani [DW-2] on the ground that the certified copies of the said documents have not been produced or filed. A general objection has also been raised that the certificates under Order XI, Rule 6(3) of CPC and Section 65B of the Evidence Act have been signed by DW-1 and not DW-2.

40. This Court in ***Burger King Corporation v. Techchand Shewakramani & Ors***.[9] held that publicly available documents ought not to be permitted to be denied. The relevant observations are set out below:

> *"31.1. A large number of documents belonging to the parties have been denied indiscriminately. Documents which are available publicly and are verifiable such as trademark certificates, copyright certificates from India and other countries, as also documents issued by governmental authorities ought not to be permitted to be denied. Such denials are completely bereft of merit and tend to prolong the trial in a suit. The purpose of admission/denial is to deny only those documents whose existence, genuinity or authenticity is disputed and not to merely harass the opposite side into proving each and every document with certified copies/original. Especially in commercial matters, the process of admission/denial deserves to be cut short where the dispute between the parties is very narrow.* ***Documents such as e-mail correspondences, legal notices, replies, internet printouts, etc. ought not to be permitted to be denied. The practice adopted by parties to deny in general all the documents of the***

[9] 2018 SCC OnLine Del 10881

> ***opposite side has been the bane of adjudication of civil suits.*** *It is with this purpose that the provisions of the Commercial Courts Act as also the recent amendments by the Delhi High Court in the Original Sides Rules has been carried out. Admission/denial affidavits ought to be fair, bona fide and not with an intention to prolong trials. Keeping these provisions in mind, parties are given another opportunity to file their affidavits of admission/denial so that triable issues can be easily identified and struck. Any unjustified denial would be liable to be dealt with as per the provisions of the Commercial Courts Act and Delhi High Court (Original Side) Rules, 2018."*
>
> [Emphasis Supplied]

41. Accordingly, the Plaintiff's objections to the admissibility of the afore-mentioned documents tendered by the Defendant cannot be sustained, as the documents in question constitute publicly available prior art. Being public documents within the meaning of Section 74 of the Indian Evidence Act, such materials do not require the same degree of formal proof as private documents. Hence, these documents are deemed admissible for the limited purpose of evaluating the state of the art and assessing the grounds of objection to the Suit Patent raised by the Defendant.

42. The Court now proceeds to deal with the four grounds seeking revocation.

Objection under Section 64(1)(e) of the Patents Act

43. Section 64(1)(e) provides that a patent is liable to be revoked if the invention so far as claimed in any claim of the complete specification is not new, having regard to what was publicly known or publicly used in India before the priority date of the claim or what was published in India or elsewhere in any of the documents mentioned in Section 13. The test is whether one prior art discloses each element of the patented claim either explicitly or implicitly.

44. Novelty is destroyed if a single piece of prior art teaches the entirety of the claimed invention, leaving nothing for further inventive contribution. The Defendant's argument, must therefore, rest on whether any one document, taken alone, discloses all the elements of Claim 1 of the Suit Patent.

45. The Defendant places reliance on an array of prior art, but has over the course of proceedings specifically highlighted only five key documents as the most pertinent to the ground of challenge relating to the claim of novelty and anticipation. The Defendant has accordingly limited their argument to these select pieces of prior art which, in their view, are most material to rebut the presumption of validity attached to the Suit Patent under Section 13(4) and Section 64(1) of the Patents Act. Thus, these documents must be analyzed to assess whether they disclose all three essential elements of Claim 1:

a) A non-metallic pipe to transport fluids,
b) A co-extruded tracer cable on the outer surface of the pipe,
c) The tracer cable being encased in suitable polymeric material.

Evaluation of Exhibit DW-2/1: US Patent Application No. 2003/0094297 A1

46. The Defendant places considerable reliance on US 2003/0094297 A1 [Exhibit DW-2/1] published on 22nd May, 2003, which predates the priority date of the Suit Patent by approximately two months. This document is described as teaching a High-Density Polyethylene[10] conduit used in the telecommunications industry, incorporating a tracer wire housed within a

[10] "HDPE"

specially formed channel in the pipe wall. The Defendant contended that Exhibit DW-2/1 discloses all essential elements of Claim 1 of the Suit Patent, including a non-metallic pipe (HDPE), a tracer wire, and a method of extrusion. It is urged that the channel accommodating the tracer wire is created *via* extrusion and that the tracer wire is capable of providing a toning signal, thus enabling pipe detection and potential leakage diagnostics.

47. However, a closer examination of the claim language and disclosures in Exhibit DW-2/1 reveals critical differences that preclude a finding of anticipation: First, Exhibit DW-2/1 does not disclose a tracer cable co-extruded on the outer surface of the pipe. On the contrary, the tracer wire is embedded within a recessed groove that is formed in the pipe wall, between the inner and outer surfaces. Claim 15 of Exhibit DW-2/1 refers to forming a longitudinal groove in the pipe wall by extrusion and placing a tracer wire within that groove. This is clearly illustrated in Figures No. 1 and 3 and confirmed in the textual disclosure.

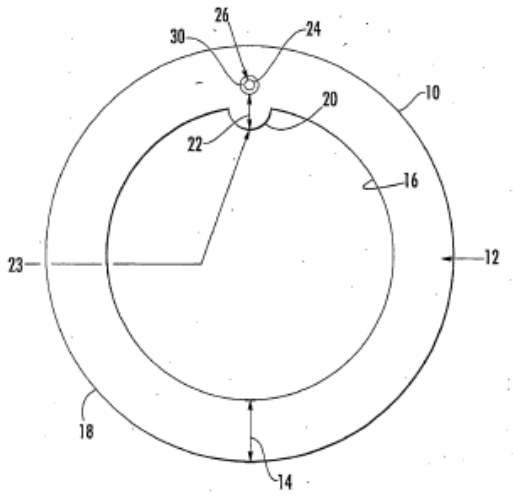


FIG. 1.

48. The Suit Patent, by contrast, requires that the tracer cable be co-extruded and located on the outer surface, not within the pipe body.

49. Second, Exhibit DW-2/1 does not disclose that the tracer wire is encased in a suitable polymeric material on the outer surface of the pipe. Rather, the wire is coincident with the channel in the polymeric tube and is coated with a composition that prevents the wire from adhering to the polymer melt used to form the polymer tube. The wire is then capable of being torn out for connectivity. It also includes a stabilizing rib extending longitudinally along the interior surface of the wall of the tube, such that the wire is embedded in the wall of the tube and the stabilizing rib is located radially inward from the wire. The relevant extracts of Exhibit DW-2/1 referencing the role of the wire, is as follows:

> *"[0009] The above advantages are achieved through the use of a toneable conduit that includes an elongate polymeric tube having a wall with an interior surface, an exterior surface, and a predetermined wall thickness.* ***A channel extends longitudinally within the wall of the elongate polymeric tube and a stabilizing rib extends longitudinally along the interior surface of the wall of the elongate polymeric tube and is located radially inward from the channel. A continuous, high elongation wire is coincident with the channel in the elongate polymeric tube and is coated with a coating composition that prevents the wire from adhering to the polymer melt used to form the elongate polymeric tube.*** *Preferably, the wire has an elongation of greater than about 1% and is preferably a copper-clad steel wire, copper-clad aluminium wire, copper wire or tin copper wire. More preferably, the wire is copper-clad steel wire. The wire also preferably has a diameter from about 0.32 mm to about 2.59 mm. More preferably, the wire has a diameter of 1.02 mm. In accordance with the invention, the wire is capable of transmitting a toning signal to allow the conduit to be detected by toning equipment and is capable of being torn out of the polymeric tube to allow the conduit to be coupled. The wire is preferably coated with a coating composition that K formed of a high melting temperature polymeric material, preferably having a melting temperature of at least about*

500° R Preferably, the high melting temperature polymeric material is selected from the group consisting of fluoropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers and is more preferably polytetrafluoroethylene. Preferably, the conduit is formed of polyethylene or polyvinyl chloride and more preferably high-density polyethylene (HDPE). The conduit also preferably has a smooth exterior surface and can further include at least one additional rib extending longitudinally along the interior surface of the elongate polymeric tube to facilitate the installation of cable within the conduit.

[0010] ***The present invention further includes a method of making toneable conduit, comprising the steps of advancing a high elongation wire and extruding a polymer melt around the advancing wire in the form of an elongate polymeric tube having a wall of a predetermined thickness, an interior surface, an exterior surface, and a stabilizing rib extending longitudinally along the interior surface of the wall of the elongate polymeric tube such that the wire is embedded in the wall of the elongate polymeric tube and the stabilizing rib is located radially inward from the wire.*** *In accordance with the invention, the advancing step comprises advancing a wire coated with a coating composition that prevents the wire from adhering to the polymer melt used in said extruding step. - Preferably, the polymer melt extruded into the form of an elongate polymeric tube through the use of a die and a tip, wherein a groove in said tip forms the stabilizing rib on the interior surface of the conduit. In addition, the wire is preferably advanced through a wire guide tube into the polymer melt. The method of the invention can also include forming additional ribs extending longitudinally along the interior surface of the elongate polymeric tube in the extruding step to facilitate the installation of cable into the conduit. The high elongation wire that is advanced into the polymer melt preferably has an elongation of at least about 1%. In particular, the wire is preferably a copper-clad steel wire, copper-clad aluminium wire, copper wire or tin copper wire and is more preferably copper-clad steel wire, and preferably has a diameter of from about 0.32 mm to about 2.59 mm. The wire is also preferably coated with a coating composition formed of a polymeric material selected from the group consisting of fluoropolymers, polyamides, polyesters, polycarbonates, polypropylene, polyurethanes, polyacetals, polyacrylics, epoxies and silicone polymers. Preferably, the polymeric material has a melting temperature of at least about 500° R, and is more preferably polytetrafluoroethylene. The polymer melt in said extruding step is*

> *preferably formed of a polymeric material selected from the group consisting of polyethylene and polyvinyl chloride, and is more preferably high density polyethylene.* ***The polymer melt is preferably extruded in the form of an elongate polymeric tube having a smooth exterior surface****."*
>
> [Emphasis Supplied]

50. This is opposite to the structural and functional integrity imparted by external co-extrusion and polymeric encapsulation of the wire, which is central to the Plaintiff's claimed invention.

51. Third, the above extract also highlights that the invention under Exhibit DW-2/1 requires the exterior surface to be preferably smooth. This teaches away from the Suit Patent as the Plaintiff's invention devising a co-extruded tracer cable on the outer surface inherently creates a non-smooth profile, precisely to facilitate traceability and leak detection in fluid transport applications. This divergence in design philosophy underscores the technical departure achieved by the Suit Patent.

52. Lastly, the invention under Exhibit DW-2/1 also states that the exterior rib including a conductive tracer wire is not suitable and has various drawbacks as is evident from paragraph No. 4 of the said document which is reproduced below:

> *"[0004] One conventional conduit construction that can be detected by conventional metal detection devices and even the toning devices discussed above includes an exterior rib that houses the metallic ribbon or wire. For example, Japanese published application JP 5-106765 describes an embodiment that includes an exterior rib including a conductive wire. Although these types of constructions have found use, it is difficult to couple this conduit with another conduit because the exterior rib prevents the connector from fitting flush onto the conduit. As a result, moisture can enter the conduit at the connection and can cause damage to the cable installed therein. In addition, the exterior rib can cause problems during installation in that the exterior rib and associated wire can be ripped off of the*

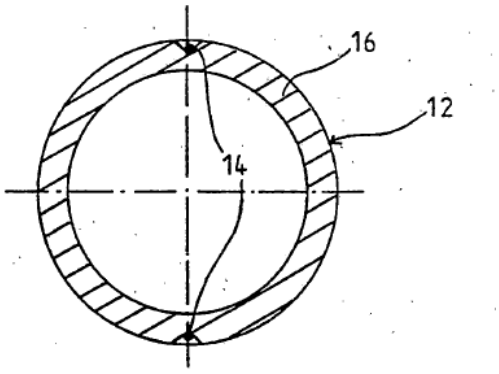
conduit if the conduit is being installed by directional boring or plowing methods."

53. Thus, a person skilled in the art would have no motivation from the said exhibit to co-extrude a tracer, wired on the outer surface of the pipe.

54. Accordingly, Exhibit DW-2/1 does not anticipate Claim 1 of the Suit Patent as it fails to disclose the complete combination of essential elements, particularly the outer surface co-extrusion and polymeric encapsulation of the tracer wire. It neither teaches nor enables the invention as claimed, nor does it render the Suit Patent's novelty vulnerable under Section 64(1)(e).

Evaluation of Exhibit DW-2/2: US Patent No. 5,212,349

55. The second document relied upon by the Defendant to challenge novelty is US Patent No. 5,212,349 published on 18th May, 1993 [Exhibit DW-2/2]. According to the Defendant, this document discloses a cable duct made of synthetic plastic material featuring a groove on its outer surface, within which a tracer wire is positioned and subsequently sealed using a polymeric filler. It is submitted that this configuration renders the Suit Patent anticipated, as it ostensibly discloses a non-metallic pipe with a tracer cable externally affixed and enclosed in polymer material. The said invention is depicted as follows:



56. At first glance, Exhibit DW-2/2 does present a structure that superficially resembles aspects of the Suit Patent. It describes a cable duct made of synthetic plastic material which can be laid on the ground with at least one detector wire along a neutral bending line in the wall of the duct, and a receiving groove in the duct wall for the said detector wire. A separate filler material is welded to the duct wall embedding the wire in the duct such that the wire is enclosed on all sides, ostensibly to protect and retain the tracer wire during installation and operation. The receiving groove extends to an outer surface of the duct and the wire is disposed in the receiving groove. However, the structural similarity ends there. The key distinction lies in the method of attachment and integration. Exhibit DW-2/2 employs a post-manufacture insertion and sealing process wherein the groove is first formed, the wire is inserted manually or mechanically, and then the filler material is applied over it. This is neither a simultaneous nor integral co-extrusion process. The tracer cable is not co-extruded along with the pipe in a single step but is instead inserted into a pre-formed cavity and sealed thereafter. This two-step process lacks the manufacturing efficiency, material uniformity, and structural integration that the Suit Patent claims as part of its advancement.

57. Additionally, while Exhibit DW-2/2 may enable traceability of the duct, it materially differs from the Suit Patent. The invention disclosed in the Suit Patent is designed to provide dual functionality – traceability and leakage detection – a feature that is neither disclosed nor even suggested in Exhibit DW-2/2. This invention focuses solely on the traceability aspect and does not contemplate the use of the tracer cable for detecting leaks, which

forms a critical and inventive feature of the Plaintiff's patented pipe assembly.

58. Further, while Exhibit DW-2/2 does involve the encapsulation of the tracer wire in polymeric material, this encapsulation is achieved *via* a separate sealing step – not through co-extrusion, which is a central feature of Claim 1 of the Suit Patent. Co-extrusion, as understood in the context of the Suit Patent, entails simultaneous formation of the pipe and the tracer cable sheath in one continuous process, resulting in a mechanically and chemically integrated structure. The absence of this characteristic in Exhibit DW-2/2 means it does not satisfy the specific structural configuration claimed in the Suit Patent. The Defendant argued that co-extrusion is a known technique and that substituting the post-sealing step in Exhibit DW-2/2 with co-extrusion would yield the Suit Patent and motivate a PSA to place the tracer cable on the outer surface of the pipe. This, however, does not support an anticipation argument under Section 64(1)(e); at best, it veers into the territory of obviousness under Section 64(1)(f), which shall be dealt with separately. Anticipation requires a clear and unambiguous disclosure of every element of the claimed invention, either expressly or inherently; Exhibit DW-2/2 does not meet this threshold.

59. Moreover, the duct in Exhibit DW-2/2 is a duct which does not relate to transport of fluids. This is, in fact, admitted by Defendant's own witness [DW-2] in his cross-examination dated 2nd August, 2019, which is produced as follows:

> *"Q69. What is the industrial applicability pf the cable duct referred to in Ex.DW-2/2?*
> *Ans. The duct referred to in Ex.DW-2/2 can be used for many industrial*

applications including cable ducting, fiber optical cable ducting, cold air ducting, air ducting, water ducting etc.

Q70. Are cable ducts carrying fluids prone to leakages?
Ans. Ducts may leak under certain circumstances, like when the applied forces or pressure or stresses are more than its designed limit.

Q71. If the pipe / duct is thin at some places and thicker at others, is the possibility of leakage more due to its design?
Ans. Possibility of leakage depends on its final application and applied forces. If the applied forces exceed the strength of the thin section of the pipe, it is likely to fail."

60. As evident from the above extract, when DW-2 was specifically confronted with the industrial applicability of the cable duct in Exhibit DW-2/2, he admitted that the said duct, while can be used for water ducting, can leak in certain circumstances.

61. Accordingly, Exhibit DW-2/2 does not disclose the claimed invention in its entirety. It lacks the co-extruded configuration, is unable to carry liquids effectively and its post-manufacture groove-sealing approach renders it materially and functionally distinct. The novelty of the Suit Patent, therefore, remains unaffected by Exhibit DW-2/2.

Evaluation of Exhibit DW-2/3: NHAI Tender Document

62. The Defendant next relies on the National Highways Authority of India Tender Document dated 15th July, 2002 [Exhibit DW-2/3], to contend that the Suit Patent was anticipated by a publicly available specification. This document, according to the Defendant, explicitly sets out a technical requirement for HDPE telecom ducts with a co-extruded copper tracer wire, which could be detected electronically for the purpose of optical fibre. It is argued that such a specification demonstrates that the use of co-extruded tracer cables on non-metallic pipes was part of the state of the art prior to the

Plaintiff's priority date.

63. The Defendant submits that the NHAI tender describes a pipe with a copper wire laid along its length through the process of co-extrusion, for the express purpose of enabling detection. The tender document requires bidders to supply HDPE ducts integrated with tracer wires and lays down performance parameters for electronic detectability. In the Defendant's submission, this amounts to a public disclosure of the essential elements of Claim 1 of the Suit Patent.

64. The question, however, is whether a tender specification of this nature constitutes an anticipatory prior art under Section 64(1)(e) of the Patents Act. The answer must be approached with caution. A tender document, while undoubtedly public in nature, is a requirement specification, not a technical teaching. It sets out what the procuring authority desires, not how such a product is to be implemented. It is not prior art in the classical sense of an enabling disclosure that a PSA can use to recreate the invention without undue burden. Moreover, the NHAI document does not describe how the tracer cable is co-extruded on the pipe. It does not explain whether the wire is laid on the outer surface or embedded within; whether it is simultaneously extruded or manually inserted; or whether it is encased in polymeric material. These are not minor omissions. The absence of detail regarding the structural configuration and the manufacturing process, particularly co-extrusion, means that the NHAI tender cannot be said to disclose the invention in its entirety.

65. Indeed, the Plaintiff points out that the difference between a document stipulating technical specifications and a "teaching document". While the

former sets a performance target, the latter provides the enabling details necessary to meet that target. The Suit Patent, in contrast to the NHAI tender, provides a specific structural solution – co-extruding a tracer cable along the outer surface of a non-metallic pipe, encasing it in polymer material, and enabling both traceability and leakage detection.

66. Furthermore, Courts have cautioned against equating commercial or regulatory specifications with prior art unless such documents clearly and unambiguously disclose the invention. As held in ***Bishwanath Prasad Radhey Shyam v. Hindustan Metal Industries***,[11] a document must enable the PSA to perform the invention without further inventive ingenuity. The NHAI tender, while arguably suggestive, falls short of the benchmark.

67. In view of the foregoing, Exhibit DW-2/3 does not constitute an anticipatory disclosure under Section 64(1)(e). It lacks the necessary specificity, structural teaching, and enabling detail to defeat the novelty of the Suit Patent.

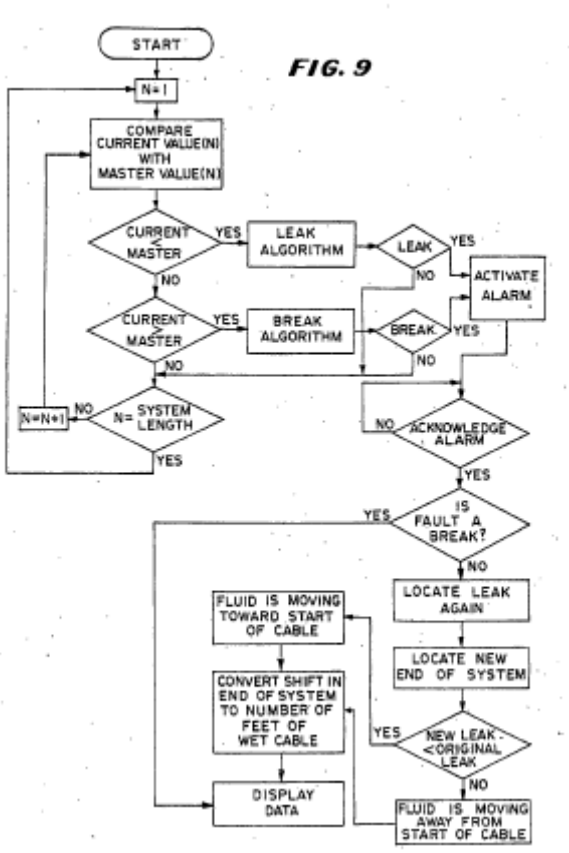
Evaluation of Exhibit DW-2/4: US Patent No. 4,797,621

68. The Defendant's reliance on US Patent No. 4,797,621 [Exhibit DW-2/4], published on 10th January, 1989, is aimed at challenging not only the novelty of Claim 9, a method claim, but also the overall originality of the Suit Patent. It is contended that the Suit Patent's process of leak detection is a near replica of the method disclosed in Exhibit DW-2/4, and that several portions of the suit specification appear to have been lifted verbatim from this document. It must be noted that the Plaintiff, during the course of arguments, gave up their claim of infringement in respect of Claim 9.

[11] (1979) 2 SCC 511

Nonetheless, since the Defendant has raised an objection to its novelty, the Court is still required to examine the same in the context of validity assessment.

69. Exhibit DW-2/4 indeed sets out a detailed method for leak detection using electrical impedance properties of a conductive wire. It describes how a pulse generator is used to transmit signals through a sensing cable installed along the pipeline, how reflected waveforms are analyzed by an oscilloscope, and how deviations from a defined threshold may be used to detect leaks. A visual representation of the invention claimed in Exhibit DW-2/4 is as follows:



70. The aforesaid features are, in substantial part, mirrored in Claim 9 of

the Suit Patent. However, Exhibit DW-2/4 is not a complete structural or functional match. The system disclosed therein does not disclose any metallic pipe or emphasize on the process of co-extrusion for laying the electrical cable in a pre-determined area. The said invention uses fluid-permeable cables with dielectric materials like glass fibres and plastic fibres. There is no teaching of co-extrusion being integrated with the pipe. This is opposed to the Claim 1 of the Suit Patent requiring emphasizing on co-extrusion of a copper wire, and not dielectric materials, during pipe manufacturing.

71. The Defendant argued that although the structural design is not identical, the leak detection process in Claim 9 is a "carbon copy" of that in Exhibit DW-2/4. The Court, however, must examine whether this similarity in method amounts to anticipation. For a prior art to anticipate a method claim, it must disclose each and every step of the claimed method, either explicitly or inherently, and in the same sequence. Exhibit DW-2/4 discloses the following components:

a) A sensing cable along the pipe;
b) Pulse generation and transmission;
c) Signal reflection and reception;
d) Oscilloscope-based signal analysis;
e) Leak identification based on waveform deviations.

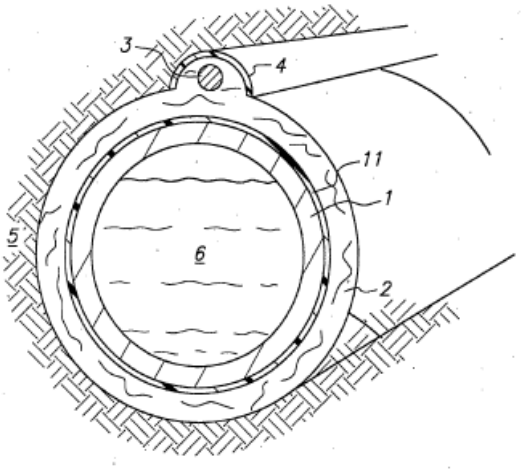
72. However, crucially, the claimed method in Claim 9 is integrally tied to the pipe of Claim 1 i.e., a non-metallic pipe with a co-extruded tracer cable on its outer surface. It is not merely a generic method of signal analysis, but a specific application of that method to a particular pipe

configuration. The Plaintiff is not claiming invention of signal reflection or oscilloscope analysis; rather, they are claiming a method of leak detection that functions in combination with its claimed structural configuration. The Court also notes that the Defendant's witness, DW-2, admitted during cross-examination dated 21st August, 2019 while answering Question No. 102 that while Exhibit DW-2/4 discusses leak detector and locator of fluids through pipes below the ground, it does not talk about the co-extruded tracer cable. This reinforces the point that Exhibit DW-2/4 does not anticipate the complete method claim as defined in Claim 9, since the method is inextricably linked to the invention described in Claim 1.

73. In conclusion, Exhibit DW-2/4 discloses elements akin to the functional methodology of Claim 9, but not the invention as a whole. Owing to significant differences in the structural features and detection method between the cited patent and the Suit Patent, Exhibit DW-2/4 cannot be said to anticipate the Suit Patent within the meaning of Section 64(1)(e).

Evaluation of Exhibit DW-2/10: US Patent No. 5,918,267

74. The Defendant has also relied on US Patent No. 5,918,267 [Exhibit DW-2/10], published on 29th June, 1999, asserting that it discloses the use of a tracer wire on the external surface of any type of pipe, thus, forming the basis of the Defendant's contention that the concept of a tracer wire embedded on the pipe's exterior was already known prior to the priority date of the Suit Patent. The invention claimed under Exhibit DW-2/10 is reproduced as follows:



75. Upon careful examination, it is evident that the prior art led by the Defendant does not comprise all the essential features of the Suit Patent. The prior art discloses a buried pipe system designed for transporting fluids other than water such as hydrocarbons, wherein leakage detection is facilitated through a fluid-wicking fabric member placed in direct contact with the surrounding soil. This fabric lies beneath or wraps around the pipe and includes a fluid sensor which contacts the fluid-wicking member. The sensor cable detects the presence of fluid but remains externally mounted and, if necessary, replaceable *via* a rigid cover structure.

76. In stark contrast, the Suit Patent envisages a non-metallic pipe, wherein a tracer cable is co-extruded and integrally embedded within the pipe's wall during the manufacturing process itself. This structural integration enables not merely the detection of a leakage event, but also the precise location of the leak, employing techniques such as pulse reflection sampling. The co-extruded design offers several advantages: it eliminates the need for external sensor assemblies, ensures continuous monitoring without disruption, enhances the mechanical protection of the detection

system, and prevents tampering or accidental displacement of the tracer element.

77. Co-extrusion, as understood in the field, implies a single manufacturing step that combines the pipe and tracer wire, resulting in structural integrity, uniformity, and possibly enhanced performance. The Plaintiff's emphasis is that in the Suit Patent, the tracer wire is co-extruded to form an integral part of the pipe itself, unlike the post-fabrication affixation method disclosed in Exhibit DW-2/10. This distinction is not merely semantic or superficial; it materially affects the method of manufacture, the mechanical strength of the product, its ease of installation, and potentially even its operational longevity. Significantly, Exhibit DW-2/10 is silent on the use of any co-extrusion technique and does not contemplate the integration of the tracer cable with the pipe in a single, continuous manufacturing process.

78. Moreover, while the prior art relies on a fluid-wicking fabric as an intermediary medium to channel leaked fluid towards an external sensor, the Suit Patent achieves detection and localization directly through the embedded tracer cable, without dependence on soil contact or intermediary wicking action. Thus, the underlying detection mechanisms, structural configurations, and the technical effects achieved are fundamentally distinct.

79. For these reasons, Exhibit DW-2/10 does not invalidate the novelty of the Suit Patent. The invention's novelty lies not in the mere placement of a tracer wire on an HDPE pipe, but in doing so by co-extrusion as part of an integrated pipe assembly enabling traceability and leakage detection.

80. Thus, upon a comprehensive evaluation of the prior art references

relied upon by the Defendant, the distinguishing features of the Suit Patent, as compared to each cited document, are summarized in the table below for ease of reference and clarity:

Elements of Claim 1 of the Suit Patent					
Suit Patent	***US 2003/0094297 [Exhibit DW-2/1]***	***US 5,212,349 [Exhibit DW-2/2]***	***NHAI Tender Document [Exhibit DW-2/3]***	***US 4,797,621 [Exhibit DW-2/4]***	***US 5,918,267 [Exhibit DW-2/10]***
(i) Non-metallic pipe to transport fluids	***Partially****: HDPE pipes for conduiting anything*	***Partially****: HDPE pipes, not specifically for fluid transport*	***Partially****: HDPE ducts for telecom, not fluid transport*	***No****: Focus is on leak detection in general; no reference to HDPE pipes for fluid transport*	***No****: Pipe required is a metal pipe and focus is on fluids other than water like hydrocarbons*
(ii) Co-extruded tracer cable	***Partially****: Mentions extrusion in Claim 15, but wire is embedded in the wall; teaches against surface mounting*	***No****: Tracer wire placed in a groove and the said groove extends to an outer surface. The wire is filled with softened material and not co-extruded*	***Yes****: Mentions co-extruded copper tracer wire*	***No****: Describes cable on pipe but not co-extruded*	***No****: Fluid-wicking member lies beneath the pipe*
(iii) Tracer cable	***No****: Wire embedded inside*	***No****: Wire embedded in a*	***No****: Outer surface not described,*	***Unclear****: Describes "detecting*	***No****: Fluid-wicking member lies*

located on outer surface of pipe	*channel between surfaces; specifically avoids external cable*	*receiving groove which is inside wall but extends to an outer surface of the duct and the wire is disposed in the receiving groove*	*only co-extrusion with HDPE pipe*	*cable" possibly in contact with fluid — not outer surface*	*externally, underneath or around the pipe and is in contact with soil*
(iv) Tracer cable encased in suitable polymer	***No**: Placed in channel and is coated with a non-adhering polymer to allow it to be torn out later; teaches away from external extrusion*	***Yes**: Filler material wraps over embedded tracer wire*	***Yes (Implied)**: If co-extruded with HDPE, wire would be encased in same material*	***Unclear**: Refers to insulation and detection cable, but not explicitly a polymeric encasing*	***Unclear**: May be attached, but encasing not specified*
Overall similarity to Claim 1	***Low**: Teaches away from surface-extruded cable; focuses on interior channel*	***Low**: Similar installation method, but structure, purpose, and placement differ*	***Moderate**: Only document pre-dating priority date mentioning co-extruded wire, but purpose is telecom, not fluid transport*	***Remote**: Detection method overlaps with Claim 9, not structural features of Claim 1*	***Low**: Uses fluid-wicking method; co-extrusion and use unclear*

Conclusion

81. In order to attract revocation on the ground of lack of novelty under Section 64(1)(e) of the Patents Act, the Defendant must demonstrate that each and every element of the invention as claimed in the Suit Patent was disclosed in a single prior art document that was publicly available prior to the priority date of the Suit Patent. It is well settled that obviousness must be by a clear and unambiguous disclosure, and that mosaic reconstruction from multiple documents cannot undermine novelty, as held by this Court in ***Glaverbel SA v. Dave Rose and Ors***.[12]

82. None of the cited prior art documents, individually, disclose all these features in combination. At best, certain features are found scattered across multiple references, which may be relevant for inventive step, which is addressed under Issue No. 2, but does not suffice for anticipation under Section 64(1)(e). This Court in ***Ericson v. Lava***,[13] while analysing the decision in ***General Tires & Rubber Co. v. Firestone Tyre & Rubber Co. Ltd***,[14] on the issue of novelty, observed that even if not all details are present in the earlier document cited as novelty destroying prior art, it is possible that the prior art document and the patent in question essentially convey the same message but in different terms. The key question to resolve in such instances is whether the prior art document provides clear and unmistakable instructions that, if followed, would inevitably lead to a result that falls within the scope of the patent's claims or inventive concept. That threshold

[12] 2010 SCC OnLine Del 308
[13] 2024: DHC: 2698
[14] RPC 486 89.17.457

is not met here. In view of the above discussion, the Defendant has failed to discharge the burden of proving that Claim 1 of the Suit Patent was anticipated in its entirety by any single prior art reference. The argument of lack of novelty under Section 64(1)(e) is, therefore, rejected.

Objection under Section 64(1)(f) of the Patents Act

83. The concept of an inventive step ensures that a patent is awarded only for inventions that represent a genuine technical advancement over existing knowledge, and not for trivial or obvious modifications. An inventive step exists when the invention is not obvious to a PSA, having regard to the state of the prior art at the relevant time. Section 2(1)(ja) of the Act defines "inventive step" as "*a feature of an invention that involves technical advance as compared to the existing knowledge or having economic significance or both and that makes the invention not obvious to a person skilled in the art.*" Thus, the invention that creates the product must have a feature that involves technical advance as compared to the existing knowledge or having economic significance or both, and this feature should be such as to make the invention not obvious to a PSA. In ***Biswanath Prasad Radhey Shyam***, it was observed that an invention must be something more than a mere workshop improvement or routine adaptation.

84. This statutory requirement is further enforced through revocation proceedings under the Patents Act. Section 64(1)(f) provides that a patent is liable to be revoked if the claimed invention is obvious or does not involve an inventive step, having regard to what was publicly known or publicly used in India before the priority date. The term "obvious" must be

interpreted in its plain and ordinary sense; hence, something that is obvious cannot involve complexity.

85. The assessment of inventive step entails a structured, multi-stage analysis that traces its origin to the four-step framework articulated in ***Windsurfing International Inc. v. Tabur Marine Limited***,[15] and refined in ***Pozzoli Spa v. BDMO SA***[16] through the identification of the PSA. This approach was further tailored by the Division Bench of this Court in ***F. Hoffmann-La Roche Ltd. v. Cipla Ltd.***,[17] which distilled a five-step test for evaluating inventive step, drawing from the Windsurfing/Pozzoli framework.

The Five-Step Test: F. Hoffmann-La Roche Ltd. v. Cipla Ltd.

86. The five-step test, applied across patent cases post-2015, remains a touchstone to determine obviousness:

> *"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,*

[15] [1985] RPC 59.
[16] [2006] EWHC 1398 (Ch)
[17] 2015 SCC OnLine Del 13619

> *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 hindside approach"*

87. This Court must step into the shoes of a skilled artisan and not the inventor, and then evaluate whether the invention emerges from a routine progression or a creative leap. Let us now apply this framework to the Suit Patent to assess the presence of an inventive step.

Step 1: Identify the PSA

88. The notional PSA in the present case is a mechanical or polymer engineer working in the field of non-metallic piping systems, familiar with extrusion processes, pipe installation constraints, and leakage detection mechanisms as they existed on the priority date, i.e., 25th July, 2003. Such a person would be presumed to possess knowledge of co-extrusion technology, HDPE material characteristics, leak detection techniques, and tracer wire integration. However, this person is **not** a visionary. They apply known techniques to solve practical problems using predictable tools.

Step 2: Identify the inventive concept embodied in the patent

89. The inventive concept underlying Claim 1 of the Suit Patent lies in a non-metallic pipe assembly (typically HDPE), designed to transport fluids, wherein a tracer cable is co-extruded onto the outer surface of the pipe and encased in a suitable polymeric material. This configuration enables traceability and leakage detection through electrical pulses, while purporting to preserve structural integrity and ease of installation. The asserted

advantage is dual: (i) ease of installation and (ii) improved traceability and leak detection without compromising structural integrity.

90. Claim 9, being a method claim, rests entirely on Claim 1 and the usage of this pipe in a detection process involving a signal and pulse generator, followed by reflection analysis.

Step 3: Attributing common general knowledge to the person skilled in the art as on the priority date

91. Common general knowledge implies information which, on the date of the patent in question, is common knowledge in the art or science to which the alleged invention relates, so as to be known to duly qualified persons engaged in that art or science.[18] In the present case, the PSA, as identified above, may have been aware of (a) the use of tracer wires for detecting pipelines; (b) co-extrusion as a method for manufacturing layered polymer pipes; and (c) the general challenges in maintaining traceability and fluid integrity in buried plastic pipelines. However, there is no credible evidence led by the Defendant to suggest that it was common general knowledge to integrate a tracer wire as a co-extruded structural feature on the outer surface of the pipe and encased in polymer material to serve both mechanical and locational functions.

92. Thus, when the invention as encapsulated in the Suit Patent is viewed through the lens of the PSA, limited to the common general knowledge at

[18] ***British Thomson- Houston Co. Ltd. v. Stonebridge Electrical Co. Ltd***., (1916) 33 R.P.C. 166

the relevant time and devoid of inventive faculties, it cannot be said to have been obvious to try or to arrive at without an inventive leap.

Step 4: Identify the differences between the prior art and the claimed invention

93. The Defendant relies on five key prior art documents to contend that each element of Claim 1, either individually or in combination, was already in public domain prior to the priority date which have been detailed while discussing the issue of novelty.

94. Collectively, the prior art reveals multiple configurations: tracer wires placed at a distance from the pipe, embedded within a recessed groove, or inserted post-installation. However, none of these documents disclose or suggest the specific combination of a co-extruded tracer cable placed on the exterior surface of a non-metallic pipe used for fluid transport and encased in polymeric material as claimed.

Step 5: Assess whether the differences constitute an obvious step to the PSA and to rule out hindsight approach

95. It is settled law that mosaicing of prior art is permissible when assessing an inventive step, provided the documents are sufficiently connected to motivate a PSA toward the claimed invention without recourse to hindsight. As held in ***KSR International v. Teleflex Inc.***,[19] a combination of familiar elements according to known methods is likely to be obvious when it merely yields predictable results. Yet, this principle is circumscribed

by the requirement that the combination must be directly suggested or motivated by the prior art, or be a matter of design necessity or market pressure with finite solutions.

96. In the present case, while co-extrusion as a process was known, there is no suggestion in the cited documents that a PSA would apply this process to mount a tracer cable on the external surface of a pipe meant to carry fluids. Indeed, US 2003/0094297 [Exhibit DW-2/1] actively discourages the use of external ribs, which a co-extruded tracer cable would resemble, due to their interference with coupling and jointing. This weighs strongly against a finding of obviousness.

97. The Defendant's attempt to rely on the NHAI tender document [Exhibit DW-2/3] as disclosing co-extrusion is undermined by the absence of any enabling disclosure. It is a commercial specification, not a technical document. Moreover, its relevance is limited to telecom ducts, not fluid-carrying applications where pressure, sealing, and durability become materially different considerations. The Defendant has not demonstrated how or why a PSA would extrapolate this document to solve the known challenges in fluid transport systems.

98. Further, the method disclosed in US 5,212,349 [Exhibit DW-2/2], including placing the tracer wire in a groove and sealing it post-manufacture, results in a multi-step process that is operationally different from co-extrusion, which yields a monolithic structure during pipe formation. As the Plaintiff correctly argued, the structural integrity, cost-

[19] 550 U.S. 398 (2007)

effectiveness, and installation convenience afforded by co-extrusion are absent in the groove-and-seal method. Even if co-extrusion was known, its adaptation to this specific problem-solution matrix is neither obvious nor suggested.

99. The assertion that the Plaintiff failed to include empirical data on technical advantage in the specification does not, *ipso facto*, negate inventive step. The statutory definition of Section 2(1)(ja) of the Patents Act permits either technical advance or economic significance. The specification highlights simplification of installation, prevention of cable damage, and the avoidance of pipe-wall compromise. These are commercial and operational advantages that support inventive merit, even if not reduced to numerical data.

Obviousness Hindsight Bias

100. Obviousness is not a license to dissect an invention into known parts and reassemble them retrospectively. The prohibition against hindsight bias, repeatedly emphasised in judicial decisions, guards precisely against such mechanical analysis. In evaluating whether the Suit Patent is obvious, this Court must remain vigilant against the use of hindsight bias, a cognitive trap that distorts legal analysis by judging the state of prior art with knowledge of the invention already in hand.

101. Hindsight bias refers to the tendency to view past events as having been more predictable than they actually were. In the context of patent law, it manifests when the claimed invention is dissected into known

components, and then those components are re-combined with the benefit of knowing the invention's outcome, thereby undermining the statutory requirement of a true inventive step. Thus, the test for inventive step must not be applied in a retrospective manner.

102. In the present case, the Defendant's approach, while tenacious, ultimately reflects an ex-post reconstruction rather than a credible roadmap that a PSA would have followed on the priority date. The Defendant's approach leans dangerously close to reconstructing the invention with full awareness of the claims in the Suit Patent. The reliance on disparate documents, none of which individually suggest or motivate the claimed configuration of a co-extruded tracer cable on the outer surface of a fluid-carrying pipe, seeks to piece together a mosaic that only takes shape with the end result in view. Such retrospective rationalisation fails the legal threshold for obviousness.

103. To avoid hindsight, the correct inquiry is not whether the invention can be deconstructed into known parts, but whether a person skilled in the art, without knowledge of the invention, would have had any reason, motivation, or expectation of success in combining the teachings of the cited prior art documents in the claimed manner. On this test, the Defendant's challenge falls short. None of the prior art references provide any teaching or suggestion that a co-extruded tracer cable on the outer surface of a non-metallic pipe for fluid transport, encased in polymer, would address known problems of traceability and leakage detection. Nor do they offer insight into the structural and functional benefits that such a configuration would

deliver. In fact, as noted earlier, some prior arts such as Exhibit DW2/1 actively discourage surface-mounted elements due to coupling complications, suggesting a technological trajectory contrary to what the Plaintiff's invention adopted.

Conclusion

104. Applying the five-step framework, it becomes clear that the claimed invention was not a predictable or routine adaptation. The prior art neither individually nor in combination offers any direct or implicit motivation to place a tracer wire *via* co-extrusion on the outer surface of a fluid-transporting non-metallic pipe. There is no teaching, suggestion, or design compulsion that bridges this conceptual gap. The Suit Patent identifies the limitations in existing solutions – e.g., tape-on cables detaching, in-wall cables compromising strength – and proposes a streamlined alternative through surface co-extrusion.

105. The cumulative difference between the claims in Suit Patent and the disclosure made in the five cited documents, is that none of the prior arts:

(a) explicitly disclose co-extrusion of a tracer wire on the outer surface of a non-metallic, fluid-transporting pipe; or

(b) contemplate such an arrangement encased in polymer, facilitating leak detection and traceability, as in Claim 1.

106. Even if co-extrusion is known in the field, its combination with outer-surface placement on fluid pipes, integrated with detection and signal

capabilities, is not found in any single document. The Defendant urged that the PSA, faced with multiple techniques (welding, embedding, strapping, or extrusion) would inevitably land on co-extrusion, making the Suit Patent an ordinary workshop variation.

107. However, this logic fails for several reasons:

(i) No prior art suggests co-extrusion on outer surface of fluid pipe. Exhibit DW-2/2 and Exhibit DW-2/10 speak of grooves or adhesives. Exhibit DW-2/1 embeds the wire inside the wall. Exhibit DW-2/4 involves a multi-pipe shell construction, not a single-layer pipe with an external tracer. Exhibit DW-2/3, the NHAI tender, is ambiguous and possibly even inadmissible as a document exhibiting "common general knowledge." Even if considered, it does not clearly disclose co-extruded outer surface wiring for fluid pipes.

(ii) Mosaicing requires an articulation of *why* a PSA would *combine* documents—not merely that they *can*. In ***Guangdong OPPO Mobile Telecommunications Corp. Ltd. v. The Controller of Patents and Designs***,[20] the High Court of Calcutta observed that there has to be a common thread that would link the prior art documents with each other for the invention to be obvious. There must be a reasoned motivation to pursue that route, absent hindsight. The Defendant has not demonstrated how the prior art documents directed the PSA to this particular solution, or how co-extrusion was known to resolve the limitations of welding/adhesion in fluid transport pipes.

(iii) Obvious to Try ≠ Obvious. The assertion that it was "obvious to try" co-extrusion fails under the principles laid down in ***Novartis AG v. Generics (UK) Ltd (t/a Mylan)***[21] which held that mere substitution of techniques is not enough; there must be a reasonable expectation of success. Here, the structural benefits of co-extrusion were neither known nor taught in prior art as relevant to traceability, encasement, and fluid integrity.

(iv) There is no data or teaching about technical advantage in the cited prior art. Unlike solutions suggested by the prior art where placement compromised pipe strength (e.g., grooves), the claimed invention avoids that entirely through outer co-extrusion. That configuration is not disclosed or even hinted at in the documents relied upon.

108. As previously emphasized, the Suit Patent, though based on known concepts like tracer wires and co-extrusion, presents a specific and unique integration of features that:

(i) eliminate previously known drawbacks (pipe wall compromise, detachment);

(ii) enhance ease of installation and leak location; and

(iii) do so without impairing fluid transport capacity.

109. That is not a mere "workshop improvement," as the Defendant suggests, but a product of inventive ingenuity. Even the Defendant's own

[20] 2023 SCC OnLine Cal 6650
[21] [2012] EWCA Civ 1623

witness did not establish how or why the precise arrangement of features would have been obvious.

110. In light of the foregoing, the Defendant has failed to establish that the Suit Patent lacks an inventive step under Section 64(1)(f) of the Patents Act.

Objection under Section 64(1)(h) and (i) of the Patents Act

111. Under Section 64(1)(h), a patent may be revoked if the complete specification does not sufficiently and fairly describe the invention and the method by which it is to be performed, in a manner that enables a PSA to work the invention. Section 64(1)(i) is a distinct ground for revocation but addresses related concerned under Section 64(1)(h). It provides that a patent may be revoked if the scope of any claim is not sufficiently and clearly defined or if any claim of the complete specification is not fairly based on the matter disclosed in the specification.

112. The Defendant's central argument is that the complete specification of the Suit Patent fails to explain the process of co-extrusion with sufficient detail. It is contended that co-extrusion forms the alleged inventive feature of the patent, and yet the specification offers no elaboration on how co-extrusion is to be executed, or what material benefit it delivers over prior techniques such as welding, sticking, or embedding.

113. It is further submitted that the Plaintiff has not disclosed any data or description in the specification to establish structural integrity or cost-efficiency arising from co-extrusion. Specifically, the Defendant argued that the complete specification fails to describe:

(a) The relationship between leakage and change in characteristic impedance of the tracer wire.

(b) How the system would function across a wide variety of fluids with differing chemical properties, including gas.

(c) The effect of environmental conditions (e.g., temperature extremes) on the impedance and the reliability of detection.

(d) Practical deployment scenarios, such as leaks occurring away from the tracer wire or the optimal number of wires needed for full coverage.

The Defendant argues that such omission renders the patent insufficient under Section 64(1)(h) along with the complete specification not being sufficiently and clearly defined and consequently, rendering it eligible for revocation under Section 64(1)(i).

Evaluation of the complete specification

114. To sustain a patent under this limb, the law does not demand an exhaustive treatise on every manufacturing detail. What is required is a disclosure enabling a PSA, endowed with common general knowledge in the field, to replicate the invention without undue burden.

115. The Suit Patent, in its complete specification, clearly identifies:

(i) The pipe assembly comprises a non-metallic pipe for fluid transport;

(ii) A co-extruded tracer cable is placed on the outer surface of the pipe;

(iii) The tracer cable is encased in a polymeric material;

(iv) The cable is used for both locating the pipe and detecting leakages;

(v) The use of signal and pulse generators is described for enabling these functions.

116. These disclosures are accompanied by diagrams and claim definitions that capture the essential configuration and its application. The method claims also describe steps for energizing the cable and analysing signal reflections to determine pipe location and leakage.

Assessment of "sufficiency" in the context

117. The requirement of sufficiency is satisfied when the disclosure made in the claims of the patent is sufficient to enable the whole width of the claimed invention to be performed. In ***Mr. Aloys Wobben v. Vestas-Celtic Wind Technology Limited***,[22] it was observed that the specification must enable the invention to be performed by a skilled person without an undue burden of experimentation and search for the right conditions. This principle has been consistently followed in Indian jurisprudence. In ***Farbwerke Hoechst v. Unichem Laboratories***,[23] the High Court of Bombay observed that insufficiency of description has two branches: (1) the complete specification must describe an embodiment of the invention claimed in each of the claims and the description must be sufficient to enable those in the industry concerned to carry it into effect without their making further inventions; and (2) the description must be fair, i.e., it must not be unnecessarily difficult to follow.

[22] [2007] EWHC 2636 (Pat)

118. The test of sufficiency must also be applied having regard to the extent of the claim. In the present case, co-extrusion is not claimed as a novel process. The Plaintiff never purports to have invented co-extrusion. It is a known technique in mechanical and polymer engineering. The function of the specification is to teach the configuration of the pipe assembly—not to re-teach industrial extrusion technology already known in the art.

119. Similarly, the concept of using characteristic impedance changes to monitor line integrity is well known in the field of electrical diagnostics and does not require re-teaching. As the PSA is presumed to be skilled in extrusion and signal monitoring technologies, the absence of fluid-specific impedance profiles or environmental calibration ranges does not vitiate sufficiency. Such operational adaptations would fall within routine experimentation.

Inconsistency in Defendant's Approach

120. As rightly argued by the Plaintiff, the Defendant seeks to rely on the NHAI tender document [Exhibit DW-2/3] as prior art and disqualify it for lack of enabling disclosure. Yet, in the same breath, the Defendant challenges the sufficiency of the Suit Patent for not elaborating on co-extrusion, an established and well-known process. This dual approach undermines the credibility of the objection. One cannot, in principle, claim lack of sufficiency where the method being criticized is already known to the PSA, and at the same time rely on a similar disclosure in prior art as anticipatory.

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[23] AIR 1969 Bom 255

121. Further, the Defendant has failed to show that any person in the relevant field has been unable to practice the suit invention based on the specification. There is no evidence of failed attempts or need for undue experimentation. On the contrary, the Defendant's own product mirrors the Suit Patent, a fact supported by cross-examination and uncontroverted admission of product similarity.

122. The burden of proving insufficiency lies squarely on the person challenging the patent. The Defendant has failed to discharge this burden.

123. As regards the objection under Section 64(1)(i), the claims are clearly drafted and fairly based on the disclosure. The Suit Patent's essential elements are structure, integration of tracer and monitoring functionality, which are all supported in the specification. This is consistent with the detailed description provided in the specification. The function of the claims of a patent is to define the monopoly granted. The claims of the Suit Patent are drafted with clear language, defining the scope of the invention without ambiguity. They do not attempt to cover undisclosed subject matter or extend beyond the invention's disclosed embodiments.

124. The Defendant's concerns about variations in fluid types, leak positions, and environmental conditions pertain to specific implementation scenarios. However, the law does not mandate that a patent specification addresses every possible variation or application.[24] As long as the core invention is sufficiently disclosed, which it is in this case, the requirements of Section 64(1)(h) and (i) are met.

Conclusion

125. The objections raised under Sections 64(1)(h) and 64(1)(i) are devoid of merit. When the complete specification of the Suit Patent is read as a whole, it provides a disclosure that is sufficiently enabling for a PSA to perform the invention without undue burden. The specification clearly sets out the invention's essential features and describes its working in a manner that allows the PSA, equipped with common general knowledge, to implement it effectively. Further, the claims are clearly worded and fairly based on the disclosure contained in the specification. There is no inconsistency between the claimed subject matter and the technical teaching of the specification.

126. Accordingly, the objections as to insufficiency of disclosure and lack of fair basis under Sections 64(1)(h) and 64(1)(i) respectively, are rejected.

Examination of Section 64(1)(m) of the Patents Act

127. Section 64(1)(m) of the Patents Act provides for revocation of a patent if the applicant has failed to disclose information to the Controller required by Section 8, or has furnished information which in any material particular, was false to his knowledge. This provision sets a high threshold: it is not enough to show that the patentee was mistaken, negligent, or overly optimistic in presenting their case. What must be proved is a deliberate,

[24] ***Versalis SPA v. Assistant Controller of Patents,*** 2024 SCC OnLine Mad 4277

material misstatement of fact made with the intent to deceive the Patent Office and secure a patent that would not have otherwise been granted.[25]

128. While Section 64(1)(h) targets cases where the complete specification fails to sufficiently and fairly describe the invention or the method by which it is to be performed, Section 64(1)(m) requires evidence of actual deception, whether by suppression of prior art, mischaracterisation of the invention's novelty, or knowingly providing false data or representations during prosecution. In ***Maj. (Retd.) Sukesh Behl v. Koninklijke Philips Electronics***,[26] the defendant sought revocation by invoking Section 64(1)(m) i.e. non-compliance of Section 8 of the Patents Act. The Court held that non-compliance with Section 8 would not automatically lead to the revocation of the patent in view of the use of the word "may" appearing in Section 64(1), concluding that the provision is discretionary.

129. The Defendant has not specifically pleaded or established any such case. Beyond general allusions to the lack of technical depth in the Plaintiff's specification, there is no assertion that the Plaintiff engaged in wilful misrepresentation during the patent prosecution process. No specific instance has been pointed out where the Plaintiff either made a false factual assertion or deliberately withheld material information from the Patent Office.

130. The Defendant's case, at best, revolves around the allegation that the Plaintiff failed to sufficiently disclose the process of co-extrusion or explain

[25] ***Maj. (Retd.) Sukesh Behl v. Koninklijke Philips Electronics***, 2014 SCC OnLine Del 2313
[26] *Ibid*

the structural and functional benefits of its configuration. These allegations, however, fall within the realm of Section 64(1)(h), not Section 64(1)(m). The question of whether the specification sufficiently describes the invention is separate from whether the patentee procured the patent by false assertions.

131. In the present case, the Defendant has not identified any false statement in Form 1, Form 3, or the prosecution correspondence. Nor has it been shown that any prior art was knowingly withheld or mischaracterised by the Plaintiff. The prosecution file and the certified patent specification were placed in evidence, and no witness, whether on behalf of the Defendant or through cross-examination of the Plaintiff's witnesses, has established that the grant of the Suit Patent was tainted by deception.

132. It is also material that the Plaintiff has not claimed novelty in the process of co-extrusion itself. As discussed above, the novelty claimed lies in the structural configuration of a non-metallic pipe assembly with a co-extruded tracer cable on its outer surface, encased in polymer, enabling traceability and leak detection. That claim was examined by the Patent Office in the ordinary course, and the grant was issued after due scrutiny.

133. A difference of opinion on the technical merit or commercial impact of an invention cannot be retroactively elevated to a charge of fraud. The Defendant's contentions fall short of the standard prescribed under the statute and the settled law on the subject. In the absence of any cogent allegation or proof of deliberate misrepresentation, this Court finds no basis to invoke Section 64(1)(m). The objection, therefore, stands rejected.

134. Accordingly, the counter-claim seeking revocation of the Suit Patent fails. Consequently, the allegation in the suit that the Plaintiff obtained the patent by committing fraud on the Indian Patent Office is also without merit and stands rejected. Thus, Issue No. (v) of the plaint and Issue No (i) of the counter-claim is decided in favour of the Plaintiff and against the Defendant.

Issue No. (iii)-Whether the Defendants' adoption and use of the products "B-Sure Polythene (PE) and Polypropylene (PP)" and "Jain Insta Tracer Pipes" amounts to infringement of Plaintiff's Registered Patent No. 199722? OPP

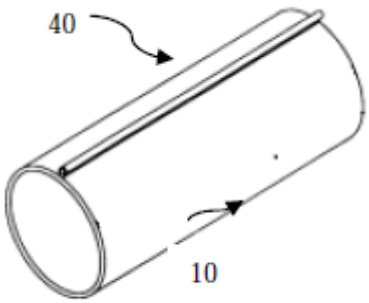
135. Having addressed the issue of validity, the Court now turns to the question of infringement. Before embarking on a detailed examination, it is pertinent to note that Mr. Neel Mason, counsel for the Plaintiff, upon instructions, clarified that the allegation of infringement is not being pressed in respect of Claim No. 9, which is a method claim. Accordingly, the Court confines its analysis to the alleged infringement of independent Claim No. 1 and dependent Claims No. 6 and 7.

136. The Plaintiff asserts that the Defendants' products, namely "B-Sure Polyethylene (PE) and Polypropylene (PP) Sewerage Pipes" as well as "Jain Insta Tracer Pipes," infringe the subject matter of Claim 1 of Patent No. 199722. A claim-wise comparison of the features of the impugned products with the Suit Patent has been placed on record, substantiated by documentary evidence and cross-examination of the Defendants' witnesses.

137. The essential features of Claim 1 of the Suit Patent consist of a non-metallic pipe to transport fluids, equipped with a co-extruded tracer cable placed on the outer surface of the pipe, wherein the cable is encased in a

suitable polymeric material and is capable of transmitting pulses for traceability and leak detection. It is this particular configuration, functional, structural, and process-based, that forms the core of the Plaintiff's infringement claim.

138. The Plaintiff has tabulated evidence, mapping each of these elements with the Defendants' products. Documentary proof in the form of product brochures, technical manuals, and admissions elicited during cross-examination of DW-2 reveal the following:

S. No.	***Claim 1 of Patent No. 199722***	***Defendant's B-Sure Polyethlene (PE) and Polypropelene (PP) Sewerage Pipes***	***Defendant's Jain Insta Tracer Pipe***
1.			*NA*

2.	*A pipe assembly having traceability and leakage detection features for locating and detecting leakage in said pipe assembly comprising:*	***Present;*** *B-Sure PE and PP sewerage pipes comprise tracer for easy detection.*	***Present;*** *Jain Insta Tracer Pipes are capable of having its location detected.*
3.	*a non-metallic pipe (10) to transport fluids,*	***Present;*** *B-Sure PE and PP sewerage pipes are made up of polymers- Polyethlene (PE) and Polypropelene (PP)*	***Present;*** *Jain Insta Tracer Pipes are made up of high-density polyethylene (HDPE)*
4.	*a co-extruded tracer cable (40) on said non-metallic pipe to which pulses are applied to locate said non-metallic pipe and detect leakage on the same.*	***Present;*** *B-Sure PE and PP sewerage pipes comprise of co-extruded cable, as indicated in the figure for detection.*	***Present;*** *Jain Insta Tracer Pipes comprise of co-extruded cable (conductive tracer wire) across which a signal is induced to detect the location of pipe.*

5.	*said co-extruded tracer cable being encased in suitable polymer material (20).*	***Present;*** *In B-Sure PE and PP sewerage pipes, co-extruded cable is encased by a jacket of PE/ PP.*	***Present***

139. The Defendant, in support of their defence of non-infringement, urged the following:

139.1. The technology deployed by the Defendant for their "Jain Insta Tracer Pipe" and similar products, including those supplied under the Omkareshwar Lift Irrigation Scheme is conventional and standard, widely adopted across the industry well before the priority date of the Suit Patent. The Defendant contended that their method of enabling traceability of underground non-metallic pipes relies on longstanding techniques that have remained in the public domain for decades and are freely accessible. Such methods, being neither novel nor proprietary, fall outside the scope of any patent monopoly and are lawfully available for public use, particularly for locating subterranean fluid-transport pipelines.

139.2. PW-2, in his cross-examination dated 7th July, 2017, admitted that he does not understand the meaning of infringement. Such an admission undermines the evidentiary weight of his deposition on the core question of infringement. In contrast, the Defendant's witness, DW-2, has provided a

clear account of the manufacturing process employed by the Defendant. In response to Question No. 17, during his cross-examination on 23rd April, 2019, DW-2 stated that the Defendant uses a two-step process, first extruding the pipe, and only thereafter affixing the tracer cable to its surface. This sequence is materially distinct from the claimed co-extrusion process in the Suit Patent, where both elements are to be simultaneously extruded. It is further pointed out that this specific answer of DW-2 was not tested or contradicted by confronting him with any contrary document or evidence during cross-examination.

139.3. The necessary precondition for establishing infringement of the suit patent is proof that the HDPE pipe and the tracer cable are extruded simultaneously, a process described in the patent as "co-extrusion." However, the Plaintiff has not adduced any technical evidence demonstrating that the Defendant's manufacturing process involves such simultaneous extrusion. On the contrary, the Defendant has led cogent evidence, including the uncontroverted testimony of DW-2, to establish that their process involves two discrete steps: the pipe is first extruded, and thereafter, the tracer cable is affixed to its surface. This distinction, according to the Defendant, is decisive and places the impugned product outside the scope of the patented claim.

139.4. During the course of the rejoinder arguments, although the Plaintiff sought to rely on a brochure allegedly showing that the Defendant uses co-extrusion, such reliance is misplaced. The Plaintiff never confronted DW-2 with this brochure during cross-examination, despite having had ample opportunity to do so. Since the Defendant's witness in response to

Question No. 17 clearly described the process which is employed by the Defendant-Company, the Plaintiff ought to have confronted the Defendant's witness with this document. In the absence of any confrontation or cross-examination on this aspect, the Defendant argued that the testimony of DW-2, wherein he unequivocally states that the company follows a two-step process, remains unrebutted. It is emphasized that the process described by DW-2 materially differs from the co-extrusion process disclosed in the suit patent, which requires simultaneous formation of the pipe and tracer cable as an integrated structure.

139.5. The Plaintiff's and Defendant's products, when juxtaposed with Exhibit DW-2/10, appear structurally indistinguishable. This visual congruence has two implications. First, if the Plaintiff alleges that the Defendant's product infringes the Suit Patent, then by parity of reasoning, the Defendant's product, which is claimed to be identical to the prior art, would also infringe that prior art. Second, this leads to an implied admission that the Suit Patent itself lacks novelty over Exhibit DW-2/10. The Plaintiff cannot approbate and reprobate: it cannot assert infringement while simultaneously denying that the Defendant's product is covered by the prior art. If the Defendant's product mirrors the prior art, and the Plaintiff alleges that it infringes the Suit Patent, then the logical corollary is that the Suit Patent reads onto the prior art. In such event, the Defendant submits, the Suit Patent is rendered invalid under Section 64(1)(e) for want of novelty.

140. The above contentions are not only misconceived, but also untenable in view of the material on record. The Plaintiff has adduced detailed claim-to-product comparisons, mapping each essential element of Claim 1 of the

suit patent with corresponding features found in the Defendant's "B-Sure PE/PP Sewerage Pipes" and "Jain Insta Tracer Pipes." These comparisons are supported not merely by documentary assertions, but are substantiated through the Defendant's own product manuals and admissions made during cross-examination. Significantly, the Defendant's brochures and technical documentation repeatedly refer to the presence of a "co-extruded cable", a term that bears direct relevance to the structural configuration protected under the Suit Patent. Such usage is not casual or incidental; it is technical nomenclature that reinforces the Plaintiff's case that the Defendant's pipes embody each constituent element of the claimed invention.

141. The Defendant's argument that its process differs from that of the Plaintiff is of limited consequence in the context of a product patent. No technical or scientific evidence has been led to establish that a distinction between simultaneous and successive extrusion results in any material difference in the final product. Infringement jurisprudence is anchored in the doctrine of substance over form, the inquiry is not into the method by which the product is made, but into whether the product, as it exists, embodies the essential features of the patented invention. It is trite law that patent infringement is assessed by comparing the allegedly infringing product with the claims of the patent, not with the patentee's commercial embodiment. What matters is whether the impugned product, viewed through the lens of structure and function, appropriates the core inventive concept or, to use the well-known formulation, the pith and marrow of the claim. This doctrine emphasizes that it not necessary to establish that the Defendant used the same method of manufacture or that the products were indistinguishable at a

microscopic level.[27] This ensures that the essence of the invention is protected.

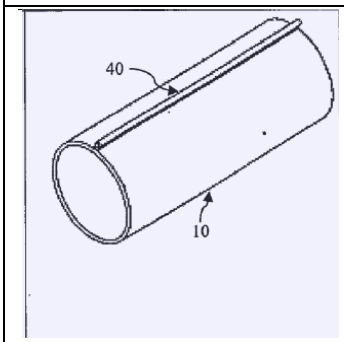
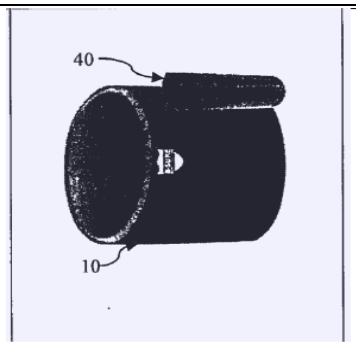
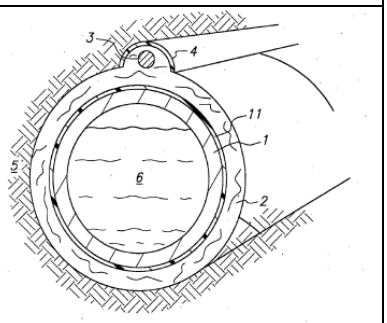
142. Claim 1 is directed to a structural product 'a pipe with a co-extruded tracer cable', not a process *per se*. The term "co-extruded" as used in Claim 1 must be understood in its technical context, referring to the final product outcome – i.e., a tracer cable that forms an integral part of the pipe during manufacture, and not merely glued or pasted post-manufacture. DW-2 in Question No. 17 of his cross-examination acknowledges that after extruding the pipe, "a process of cable manufacturing over the pipe surface" is added. There is no evidence to show this process is functionally or structurally distinct from co-extrusion. Indeed, where the final product results in the same configuration as claimed – with the cable encased in polymer and integrated with the pipe – the method of assembly becomes immaterial. As long as the end product exhibits the claimed configuration and functional characteristics, a variation in manufacturing technique does not, *ipso facto*, absolve the user of liability. Courts have repeatedly emphasised that infringement cannot be avoided by colourable variations in method, where the product as a whole embodies the patented features.[28]

143. In the Defendant's products, the tracer cable is shown to be affixed to the pipe in a co-extruded or materially equivalent manner, and the cable is capable of receiving and transmitting pulses – just as claimed in the Suit Patent. These are not peripheral or cosmetic features; they lie at the heart of the claimed invention. Moreover, the Defendant was confronted with the

[27] ***Raj Parkash v. Mangat Ram Chowdhry***, 1977 SCC OnLine Del 33
[28] ***Rodi & Weinberger A.G. Henry Showell Ltd***, (1966) RPC 441

technical literature contradicting its claim of a two-stage process during cross-examination. The Plaintiff had, in fact, placed on record several documents suggesting the contrary, including marketing and technical material of the Defendant themselves. The absence of cross-examination or rebuttal on this critical aspect diminishes the credibility of the Defendant's defence.

144. The Defendant's contention, that if the impugned products are held to infringe the Suit Patent, they must necessarily also infringe the prior art [Exhibit DW-2/10], thereby rendering the patent invalid, is legally untenable. For ease of reference, a visual comparison between three figures: the Plaintiff's product (as per the Suit Patent), the Defendant's own product, and the prior art disclosed in US Patent No. 5,918,267 [Exhibit DW-2/10] is extracted below:

The Plaintiff's Product	The Defendant's Product	US Patent No. 5,918,267
		

This line of reasoning conflates two distinct inquiries: infringement and invalidity. A finding of infringement merely establishes that the impugned product falls within the scope of the patented claims; it does not, by itself,

establish that those claims are anticipated by or obvious in light of prior art. As already analysed in detail, none of the cited prior art documents, including Exhibit DW-2/10, disclose the precise combination and configuration that form the core of the Suit Patent. The assertion of parity is therefore illusory, and the argument must fail.

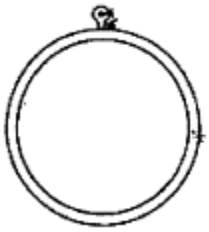
145. Accordingly, the Court is satisfied that the Defendant's "B-Sure PE and PP Sewerage Pipes" and "Jain Insta Tracer Pipes" incorporate all the essential elements of Claim 1 of Patent No. 199722. The defence that the Defendant employs a different process is unsubstantiated and contradicted by their own marketing material.

Conclusion

146. For the foregoing reasons, Issue No. (iii) is answered in the affirmative. The Defendants' products infringe the Suit Patent IN 199722. The Plaintiff is entitled to a decree of infringement.

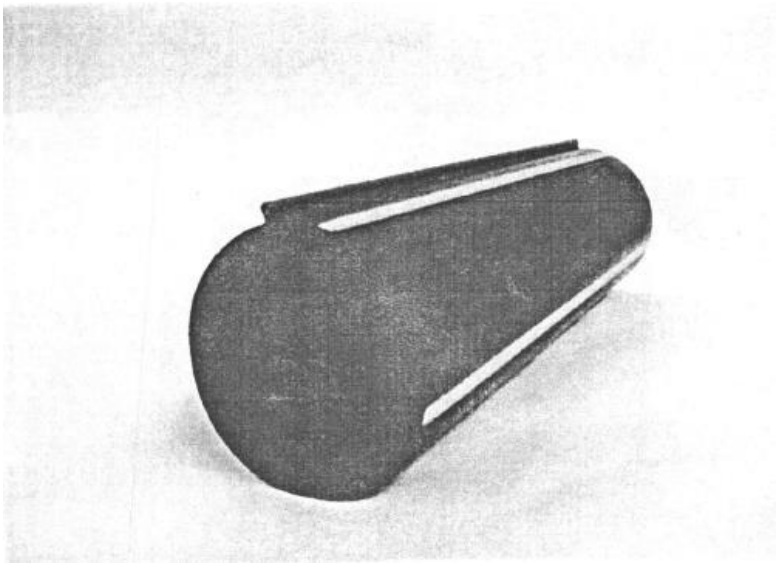
Issue No. (iv)-Whether the Defendant's adoption and use of the products "B-Sure Polythene (PE) and Polypropylene (PP) Sewerage Pipes" and "Jain Insta Tracer Pipes" amounts to infringement of the Plaintiff's Registered Design No. 192665? OPP

147. In addition to infringement of the Suit Patent, the Plaintiff also claims that the Defendant has infringed its registered design bearing No. 192665 by copying the product manufactured and offered for sale by the Plaintiff. With respect to this allegation, the design of which the infringement is alleged, has been described in Paragraph No. 14 of the plaint as follows:



148. The Defendant asserts that the design registration has been granted in respect to the "surface pattern" of the pipe. They argue that Plaintiff's registered design does not protect, nor is entitled to protect the shape or configuration of the pipe which would constitute as a technical feature of the pipe and would attract Section 2(d) of the Designs Act.

149. Before examining the merits of the Plaintiff's allegation of design infringement, it is necessary to highlight a fundamental incongruity. The visual representation of the design relied upon in the plaint does not correspond to the design as registered under Certificate No. 192665. The registered design, as evidenced by the certificate on record, distinctly indicates that the subject matter of protection is confined to the surface pattern of a pipe, as captured in the following representation below:



150. Under Section 22(c) of the Designs Act, a registered design is infringed when any person, without the consent of the registered proprietor, applies the design or any fraudulent or obvious imitation thereof to any article in the class for which the design is registered. The test is well-settled: the Court must assess whether the alleged infringing product is "fraudulent or obvious imitation" of the registered design, judged solely by visual appeal and overall look-and-feel to the eye of the customer. Functional or utilitarian features are excluded from the scope of protection, which has been reaffirmed by the Supreme Court in ***Cryogas Equipment Private Limited v. Inox India Limited and Others***.[29]

151. During cross-examination, when PW-2 was asked "*Could you please elaborate and let us know as to what exactly do you mean by "design details of the product?*" he answered as follows:

"*By design details of the product I mean, (i) it is a polymer based pipe (ii) it has got a co-extruded tracer wire and (iii) the tracer wire is encased in a polymer and other structural details*."

152. This answer suggests that the Plaintiff's claim to design registration is premised not on visual appeal or ornamentation, but on functional and constructional features. Such an approach is plainly incompatible with the statutory regime under the Designs Ac. The witness's explanation, which refers to structural characteristics and technical aspects, veers into the domain of patent protection and departs from the scope of what is

[29] (2025) SCC OnLine SC 780

protectable as a "design", namely, features of shape, configuration, pattern, or ornamentation as applied to an article and judged solely by the eye.

153. Moreover, the Plaintiff has neither identified with clarity, the visual features of the Defendant's product that are alleged to infringe the registered design, nor furnished any comparative visual analysis, expert evidence, or consumer impression studies to establish deceptive similarity.

154. Upon comparison, Plaintiff's registered design depicting a pipe with a distinct, surface-mounted linear formation, appears visually distinct from the Defendant's product, which adopts a broader contour and differing surface morphology. The Plaintiff's registered design features a circular cross-section and linear protrusion, whereas the Defendant's product exhibits a flatter profile with differing edge geometry. These differences, evaluated from the standpoint of an average consumer's eye, are sufficient to dispel any claim of imitation or deceptive resemblance. On this issue, the Court is also guided by the test laid down in ***Castrol India Ltd. v. Tide Water Oil. Co. Ltd.***[30] which held that in an action for design infringement, the question is not whether the two articles are identical in a technical or structural sense, but whether the overall visual effect or impression produced by the alleged infringing design is deceptively similar to that of the registered design, as perceived by an average customer with imperfect recollection. When the competing designs are viewed side by side, this Court finds no compelling similarity in the visual form, contour, surface finish, or configuration that would mislead a consumer into mistaking one for the other. Even if both products incorporate a tracer

[30] 1996 (16) PTC 202 (Cal)

feature, the mere functional inclusion of a technical element does not translate to visual imitation, particularly when the design registration in question is restricted to the surface pattern alone, and not to the broader assembly or embedded components. The Plaintiff has not demonstrated any fraudulent copying, nor has it shown that the Defendant had access to the design registration or modelled their products with the intent to deceive.

Conclusion

155. The Plaintiff's claim of design infringement must fail for three reasons: (i) the features claimed fall outside the permissible scope of design protection; (ii) the Plaintiff has not discharged their burden of proving visual similarity or imitation; and (iii) the Defendant's product, on visual comparison, does not appear deceptively similar to the registered design.

156. Accordingly, Issue No. (iv) is decided against the Plaintiff and in favour of the Defendant.

Relief

157. With the expiry of the patent, the Plaintiff's claim for a permanent injunction and delivery up, being injunctive remedies, no longer survives. The law does not permit an injunction to be granted in respect of a patent that is no longer in force. However, the expiration of the patent does not extinguish the Plaintiff's right to pursue remedies for acts of infringement committed during the subsistence of the patent term. The present suit was instituted while the patent was valid, and the Plaintiff is therefore entitled to seek appropriate statutory reliefs under Section 108 of the Patents Act for the infringing conduct during that period.

158. Section 108 of the Patents Act provides that in the event of infringement, the Plaintiff is entitled to claim either damages or an account of profits, but not both. At the stage of filing the suit, the Plaintiff is required only to plead alternative reliefs in accordance with law. In the present case, the Plaintiff, since the inception of the suit, has specifically prayed for rendition of accounts, and has not claimed damages.

159. The Defendant's objection, that the Plaintiff did not lay an adequate foundation for seeking rendition of accounts, is misconceived. Once infringement is established, and the Plaintiff has sought the relief of accounts in the pleadings, the Court must proceed to evaluate whether such relief is warranted based on the nature and extent of infringement. The contention that the Plaintiff is estopped from seeking rendition of accounts is, therefore, without merit.

160. Now that infringement has been established, the Plaintiff is entitled to pursue the relief of rendition of accounts to quantify the benefit unlawfully derived by the Defendant from the sale of products "B-Sure Polyethylene (PE) and Polypropylene (PP) Sewerage Pipes" and "Jain Insta Tracer Pipes" during the term of the Suit Patent.

161. The Suit Patent was granted on 13th April, 2007, the suit was filed on 20th April, 2013 and the Suit Patent expired on 23rd July, 2023. As per the applicable limitation period, rendition of accounts shall be awarded from three years prior to the suit filing (i.e., from 20th April, 2010) until the expiry of the Suit Patent.

162. Accordingly, the Defendant shall, within six weeks from today, render their statement(s) of accounts of profits earned from the sale of the said products as per the aforesaid timelines.

163. Mr. Amar Nath, District and Sessions Judge (Retd.) [Contact No.: +91 9958697030] is appointed as a Local Commissioner to go into the Defendant's accounts of profits earned from the sale of the aforesaid products.

164. The Defendants shall file their affidavit(s) by way of evidence (examination-in-chief) within six weeks from today and furnish their books of accounts and all other information as required by the Local Commissioner.

165. The fee of the Local Commissioner is fixed at INR 3,00,000/- besides the out-of-pocket expenses, subject to revision if the proceedings so demand. The aforesaid sum shall be paid by the Plaintiffs in advance.

166. The Local Commissioner shall fix the dates for recording of the statement(s) in consultation with the counsel for the parties.

167. The commission be concluded within four months from the date of first appearance. The Report of the Local Commissioner be submitted within four weeks from the date of conclusion of recording of evidence.

Costs

168. As regards the award of costs, the Supreme Court in ***Uflex Limited v. Government of Tamil Nadu and Others***,[31] laid down the principles for determining costs in commercial matters which read as follows:

[31] (2022) 1 SCC 165

"55. ***We may note that the common thread running through all these three cases is the reiteration of salutary principles: (i) costs should ordinarily follow the event; (ii) realistic costs ought to be awarded keeping in view the ever-increasing litigation expenses; and (iii) the costs should serve the purpose of curbing frivolous and vexatious litigation****. [Report No. 240 of the Law Commission of India.]*

56. We may note that this endeavour in India is not unique to our country and in a way adopts the principle prevalent in England of costs following the event. The position may be somewhat different in the United States but then there are different principles applicable where champerty is prevalent. No doubt in most of the countries like India the discretion is with the court. There has to be a proportionality to the costs and if they are unreasonable, the doubt would be resolved in favour of the paying party [UK Civil Procedure Rule 44.2.] . As per Halsbury's Laws of England, the discretion to award costs must be exercised judicially and in accordance with reason and justice. [Vol. 10, 4th Edn. (Para 15).] The following principles have been set out therein:

"In deciding what order (if any) to make about costs, the court must have regard to all the circumstances, including:

(i) The conduct of all the parties;

(ii) Whether a party has succeeded on part of his case, even if he has not been wholly successful; and

(iii) Any payment into court or admissible offer to settle made by a party which is drawn to the court's attention. The conduct of the parties includes:

(a) Conduct before, as well as during, the proceedings and in particular the extent to which the parties followed any relevant preaction protocol;

(b) Whether it was reasonable for a party to raise, pursue or contest a particular allegation or issue;

(c) The manner in which a party has pursued or defended his case or a particular allegation or issue; and

(d) Whether a claimant who has succeeded in his claim, in whole or in part, exaggerated his claim." *[10th Vol. 4th Edn. (Para 17).]*

58. ***We have set forth the aforesaid so that there is appreciation of the principles that in carrying on commercial litigation, parties must weigh the commercial interests, which would include the consequences of the matter not receiving favourable consideration by the courts. Mindless appeals should not be the rule****. We are conscious that in the given facts of the case the respondents have succeeded before the Division Bench though they failed before the learned Single Judge. Suffice to say that all the parties before us are financially strong and took a commercial decision to carry this legal battle right up to this Court. They must, thus, face the consequences and costs of success or failure in the present proceedings."*

[Emphasis Supplied]

169. The present suit was instituted in 2013 and was originally numbered as CS(OS) 796/2013. Pursuant to an order dated 28th March, 2017, it was renumbered as CS(COMM) 245/2017 and designated as a commercial suit under the provisions of the Commercial Courts Act, 2015. The matter has involved extensive hearings spanning over a decade, with consistent engagement of legal counsel. At the time of the institution of the suit, the Suit Patent was valid which expired during pendency of proceedings. Additionally, a Local Commissioner was appointed by order dated 5th October, 2016, to record evidence with a direction that the Plaintiff shall initially bear the Commissioner's fee, subject to adjustment at the stage of final adjudication. Considering the facts and circumstances of the case, the Plaintiff is entitled to recover full commercial costs from the Defendant in terms of the Commercial Courts Act, 2015.

170. Plaintiff shall file their bill of costs which include the fee of the Local Commissioner on or before 31st July, 2025. Upon filing, the matter will be listed before the Taxing Officer for computation of costs.

171. The suit is decreed in favour of the Plaintiff and against the Defendant in the above terms.

172. Decree sheet be drawn up.

173. In view of the Court's finding upholding the validity of the Suit Patent, the Registry shall issue a certificate of validity of its claims in accordance with Section 113 of the Patents Act, 1970.

174. Registry is directed to supply a copy of the present order to the Controller General of Patents, Designs, and Trademarks at llc-ipo@gov.in for compliance.

SANJEEV NARULA, J

MAY 19, 2025
as