

**Before The Controller of Patents**

**under**

**The Patents Act, 1970 (as amended)**

**and**

**The Patents Rules, 2003 (as amended)**

Application Details	
Application number	2550/DELNP/2015
Application type	PCT national phase application
Date of filing	27/03/2015
Applicant name	Nippon steel corporation
Title of invention	Hot- rolled steel sheet , and production method therefor
Field of invention	Metallurgy
E-mail (as per record)	remfry-sagar@remfry.com
PCT international application number	PCT/JP2013/076027
PCT international filing date	26/09/2013
Priority date	27/09/2012
Request for examination date	27/03/2015
Publication date (U/S 11A)	11/09/2015
First examination report (FER) date	21/06/2019
Reply to FER date	07/10/2019
Date for Subsequent Examination Report (SER) cum Hearing notice	29/11/2021 (adjourned on part of the Controller), 13/12/2021
Date of Hearing	15/12/2021
Hearing attended by	Ms. Swati Pahuja, IN/PA-1205
Hearing submission u/r 28(7)	18/01/2022 (petition u/r/ 138 filed on 23/12/2021)

1. Consequent to the reply to the FER by the applicant a Subsequent Examination Report (SER) cum Hearing Notice was issued as above. A hearing was held on 15/12/2021. The hearing notice consisted of the objections for patentability, the sufficiency of disclosure, formal objections, etc.

2. The applicant has submitted a copy English translation of the priority document that was submitted after the expiry of 31 months in contrast with rule 20(4) (i) of the Patents Rules. An objection for the same was conveyed in the hearing notice. The applicant has failed to file any petition for condonation of delay. The priority of the application is accordingly disregarded.

3. It was noted that the applicant has issued multiple POA in the name of the agents of the different firms. A general Power of Authority (POA) dated 08/04/2019 was only submitted. The said power of attorney doesn't mention the patent application number. Apparently, the applicant is aware of the prosecution of the instant patent application. In my understanding, the POA should be able to convey that the applicant agrees to the prosecution of its particular patent application through certain patent agents. The intention is established here. However, the applicant has not taken care of the payment of the stamp value for the power of attorney for this patent application. This is a clear loss to the exchequer.

### **Technical Analysis**

4. Through the hearing notice and oral discussion, it was conveyed to the applicant through the agent that the domains of the disclosure of the alloying elements don't endorse the sought domains in the claim for protection. The very basis of the same is the experimental analysis that has been disclosed in the complete specification table 1 and table 2.

Brief technical objections were conveyed under the patentability in the SER and it was conveyed that the criteria of inventive step remain outstanding.

In my considered view, as per the "quid Pro quo" principle, an applicant would be entitled to the protection of an invention to an extent, that is supported by the experimental analysis in the cases of alloys. Section 10(4) of the Patents Act, 1970 through sub-sections (a), (b), (c) read with section

10(5) {The claim or claims of a complete specification shall relate to a single invention, or to a group of inventions linked so as to form a single inventive concept, **shall be clear and succinct and shall be fairly based on the matter disclosed in the specification**} is very much clear about the same.

While alloy compositions are under consideration, the absolute content of the alloying elements is of prime importance. The variation in the alloying composition is likely to affect physical, mechanical, and other properties. Also, the solid-state transformation (eutectoid reaction) of the alloy is likely to affect the phase fractions depending on the shift in critical temperatures, heating rate, cooling rate, holding time, etc.

As per the disclosure in the complete specification, it is understood that the properties in the alloys deteriorate from the desired when the content of alloys crosses a limit as underlined in table 1. Table 1 discloses the domains of the alloys as: C- 0.05-0.13, Si- 0.1-0.2, Al- .6-2.0, Mn- 1.2-2.0, P- 0.010, S- 0.001-0.003, N- 0.003, Ti-0.03-0.09, Nb- 0.008-0.06 as main constituent (in wt%).

Alloys samples B, C, D, E, F, G, G, H have Vanadium (V), Molybdenum(Mo), Magnesium (Mg), Lanthanum (La) & Cerium (Ce), Vanadium +Molybdenum & Chromium, Boron & Calcium, Copper & Nickel. Apparently, the presence of optional alloying elements is specific (as per the disclosure).

5. The subject matter in claim 1 seeks the compositional protection of Carbon, Silicon, Aluminum, Manganese, Phosphorus, Sulphur, Nitrogen, Titanium beyond the disclosures in table 1. The same is not allowable under section 10(4) read with 10(5) of the Act.

Further, the subject matter in claim 1 takes the possibility of the presence of vanadium (V) in the range of 0.01-0.12 (wt%). It is observed that 'V' is present in alloy 'B' as 0.06 wt% and in alloy 'F' combination with 'Mo' & 'Cr' (apart from Carbon, Silicon, Aluminum, Manganese, Phosphorus, Sulphur, Nitrogen, Titanium) in 0.1 wt%. The claimed range of 'V' is not endorsed by the experimental data apparently.

Similarly, while one or more of Cr, Cu, Ni, and Mo is claimed in combination or the other permutation of Ca, Mg, La, and Ce are claimed, it takes the possibility of these elements in any combination against the specific disclosures. The combination of the possible alloys with the above-mentioned alloying elements is not endorsed by the experimental analysis let alone the mentioned compositional range in the working examples.

For the said reasons, the subject matter in claim 1 is not allowable under section 10(4) read with 10(5) of the Patents Act.

6. The applicant has amended claim 1 adding the term 'optionally'. In my considered opinion, this would not render any change in the scope of the protection sought in claims 1, since the Boron (B) is present in alloy example 'G' with 'Calcium(ca)' in a specific composition only as against the claimed composition range. Any possibility which considers the 'B' being present in a range and in combination with other alloying elements (other than C, Si, Al, Mn, O, S, N, Ti, Nb) is not endorsed as per the disclosure in table 1, hence not allowable.

It is noted that in the case of an alloy (Metallurgy), the absolute compositions are critical and mere speculation/extrapolation of the properties based on a particular disclosure can't be relied upon.

Therefore, any speculation in any part of the complete specification that a particular alloying element, may be taken in any particular composition to achieve the desired property, will not entitle any applicant to extend the compositional domain with respect to the actual experimental analysis.

Allowing such claims are going to circumvent the provisions under sections 10(4), 10(4) and encourage the patenting of idea/speculations.

7. Also, claim 1 fails to propose an upper limit of the strength in MPa, which fails to limit the scope of the claim under section 10(4) (c) of the Act.

8. The applicant has presented one micrograph without any support of the phase analysis or the fraction of phase. The same can't be considered to be providing fair disclosure in respect of the claimed subject matters. It is noted that multiple micrographs are required for the calculation of phase fraction after identification and confirmation of the phases. Also, there is a good error associated with the procedure. Nothing has been reported by the applicant. Therefore, I am not inclined to consider that a fair disclosure for claimed physical microstructure in claim 1 has been provided. The said part of the claim is therefore not allowed under section 10(4) read with 10(5) of the Act.

9. No micrographs endorsed by the phase determination analysis for the presence of the carbide are provided. The way the specification is drafted seems more speculative than any experimental findings. The subject matter in claim 2 is not in accordance with section 10(4) read with 10(5) of the Act.

10. The subject matter in claim 5 is not allowable as it seeks the manufacturing method of a steel sheet having a composition that is not supported in the experimental analysis of the complete specification.

11. The subject matter in claim 7 remains vague. The applicant has drawn the attention of the controller to paragraphs 85 and 86. The disclosure in these paragraphs is speculative and "the alloying treatment on a plated layer" remains unclear.

12. Given the explanation in paragraphs 4-11, I am of the considered opinion, that the applicant's claims are not in accordance with the provisions under section 10(4) read with 10(5) of the Act. The

applicant has not amended the specification in accordance with section 10(4) read with 10(5) of the Act, despite clear objections conveyed through FER, hearing notice, and in the hearing. Therefore, it is not justified to take an explicit opinion under section 2(1) (j), (ja) on the claimed subject matter which is considered not allowable for the reasons mentioned in the preceding paragraphs. No explicit opinion based on the final submission is required as even a single outstanding objection would be enough to refuse a patent application under section 15 of the Act; the explicit opinion on section 2(1) (j), (ja) would otherwise not affect the fate of this application.

13. It is also noted that the applicant refers to the grant of the corresponding patent applications in various countries and speculates the novelty / inventive step of the claimed invention. It is pertinent to note at this point that the opinions of the competent authorities in the different territories have no binding effect on the competent authority of India. Consideration of similar arguments *in toto* in other territories can affect the considerations in India, which is not the case here. I have not been pointed out any of the similar provisions as that of section 10(4) and 10(5) of the Indian Patents Act, 1970 *vis-à-vis* the objections raised in India, if been discussed *in toto*, in any of the other territories.

### **Decision**

In view of my understanding in paragraphs 4-13, I refuse to proceed to the grant of subject matter in the instant patent application.

Patent Office, Mumbai

Dated: 22<sup>nd</sup> February 2022

Kundan Kumar  
Assistant Controller of Patents and Designs