

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)	10.02.2015
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Applicant's or agent's file reference JCALS266PCT	FOR FURTHER ACTION See paragraph 2 below
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International application No. PCT/JP2014/081953	International filing date (day/month/year) 03.12.2014	Priority date (day/month/year) 12.12.2013
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International Patent Classification (IPC) or both national classification and IPC
B21D41/04 (2006.01) i, B21D22/14 (2006.01) i, B21D53/84 (2006.01) n

Applicant
CALSONIC KANSEI CORPORATION

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

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Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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1. Statement			
Novelty (N)	Claims	1-15	YES
	Claims	_____	NO
Inventive step (IS)	Claims	2-3, 10-11	YES
	Claims	1, 4-9, 12-15	NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims	_____	NO

2. Citations and explanations:	
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Document 1: JP 2002-066665 A (FUJI MACHINE WORKS CO., LTD) 05 March 2002, paragraphs [0011]-[0017], fig. 1 to 4 (Family: none)

Document 2: JP 2000-246353 A (TOYOTA MOTOR CORP.) 12 September 2000, paragraphs [0012]-[0016], fig. 1 and 2 (Family: none)

The invention as in claims 1 and 9 could easily be invented by a person skilled in the art on the basis of the inventions disclosed in documents 1 and 2 cited in the ISR and, thus, does not involve an inventive step.

Document 1 discloses a method for forming an elliptical hollow cylinder comprising: a first forming step in which a part of the elliptical hollow cylinder is formed into a shape of a circular tube using a circular mold; and a second forming step in which the diameter of the part formed into a shape of a circular tube by the first forming step is reduced using an outside roller.

Furthermore, document 2 discloses expanding the diameter of a part of the circular tube by means of a spinning process.

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

It would not be difficult to combine the invention disclosed in document 1 with the invention disclosed in document 2 so as to form a part of the elliptical hollow cylinder into a shape of a circular tube by expanding the diameter of a part of the elliptical hollow cylinder by means of a spinning process.

The invention as in claims 4-5 and 12-13 could easily be invented by a person skilled in the art on the basis of the inventions disclosed in documents 1 and 2 cited in the ISR and, thus, does not involve an inventive step.

Document 2 discloses expanding the diameter of a part of the circular tube by simultaneously using an inner roller and an outer roller. It is also indicated that the inner roller and the outer roller are moved in the axial direction of the circular tube.

The invention as in claim 6 could easily be invented by a person skilled in the art on the basis of the inventions disclosed in documents 1 and 2 cited in the ISR and, thus, does not involve an inventive step.

Document 2 indicates that the outer roller and the inner roller are provided in the same equipment.

A person skilled in the art could perform as necessary each step with the same equipment in order to improve manufacturing efficiency.

The invention as in claims 7-8 and 14-15 could easily be invented by a person skilled in the art on the basis of the inventions disclosed in documents 1 and 2 cited in the ISR and, thus, does not involve an inventive

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step.

Document 1 indicates that the circular tube is longer than the outer roller. It is also indicated that the area processed by the outer roller is longer than the processed area of the circular tube.

The invention as in claims 2-3 and 10-11 is novel and involves an inventive step in relation to the documents cited in the ISR. The documents do not disclose the inner roller having a part for forming the boundary of the edge part and the non-edge part so as to create a smooth arc, the second forming step being performed concurrently with the first forming step, and the outer roller and the inner roller being provided in a row in the axial direction of the elliptical hollow cylinder and moving at the same speed in the axial direction while maintaining a constant distance; not even a person skilled in the art could easily conceive of this feature from the documents.