

AWA NORWAY AS  
Hoffsveien 1A  
0275 OSLO

Oslo, 2022.09.18

Your ref.: 21132946  
Application no.: 20220226 (please include in your reply)  
Applicant: ROADGUARD AS  
Due date: 2023.03.20

## Office action in patent application no. 20220226

### Basis of the opinion

*Description:* received 2022.02.18.  
*Claims:* received 2022.02.18.  
*Drawings:* received 2022.02.18.

### Conclusion

The subject matter of the independent claim of the present application does meet the criterion for inventive step.

### Results of the novelty search

Reference is made to the following documents:

- D1) US 9046446 B1
- D2) EP 3495767 A1
- D3) WO 2018/145776 A1

### Assessment of patentability

The following is a reasoned statement with regard to novelty and inventive step, ref. Norwegian Patents Act, Section 2, first paragraph.

Parts of interest are given in brackets in *italic* ([  *]*).

### *Novelty*

Document D1 is regarded as being the closest prior art to the subject-matter of independent claim 1. D1 discloses a drive-over tire tread depth gauging system [*claim 1*], the system comprising:

a housing comprising an optical opening, where the housing is configured to be embedded in a road such that a tire of a vehicle can roll across the optical opening of the housing [*column 1 lines 27-44, claims 1, 3, 12, figure 9*],

an optical scanner arranged inside the housing, where the optical scanner is configured to measure, through the optical opening of the housing, the tread depth

of the tire as the tire rolls across the optical opening of the housing [*column 5 lines 13-28, claim 1*],

a housing lid movable between a closed position in which the optical opening is covered by the housing lid, and an open position in which the optical opening is uncovered or partly covered by the housing lid [*column 2 lines 18-30*], and

at least one air nozzle configured to continuously provide an air flow [*column 7 lines 5-67*].

What D1 does not disclose is the air flow setting up a barrier. In D1 det air flow is used to clean within the sensor housing [*column 7 lines 5-29*]. It is also not disclosed in D1 that the air flow only is operational whenever the lid is opened. Hence, the independent claim 1 is novel, in the sense of Patent Act § 2, first paragraph.

Given the independent claim 1 does meet the requirements of novelty, the dependent claims 2-14 also meet the requirements of novelty, in the sense of Patent Act § 2, first paragraph.

With the same argument as for independent claim 1, *mutatis mutandis*, independent claim 15 also is novel, in the sense of Patent Act § 2, first paragraph.

#### *Inventive step*

The difference between D1 and current independent claim 1 is the air flow setting up an air flow barrier when the lid in open. The effect of this is an efficient use of energy since the air flow only sets up the barrier when the lid is open, and the air flow is not used to clean a surface avoiding wear and tear during the cleaning process due to the dirt and grime acting as an abrasive during airflow-based cleaning. The objective technical problem would be: How to save energy and lessen wear and tear of component for an optical drive-over tire tread depth gauging system.

Starting form D1 when solving the stated objective technical problem, a person skilled in the art would not arrive at the proposed solution. D1 is teaching away for the solution proposed in current independent claim 1 by setting up a cleaning regime.

D2 shows a unit for detecting geometric characteristics of a tire of a vehicle [*paragraph [0016], claim 1*]. The unit comprising a housing box internally defining at least one housing zone and externally defining an advancing path section of a tired wheel [*paragraph [0016], claim 1*]. Further the unit comprises at least one lighting means set to illuminate a portion of a tire [*paragraph [0018], claim 1*], and at least one sensor means set to detect geometric characteristics of a tire [*paragraph [0020], claim 1*]. Further the unit comprises at least one nozzle or opening is arranged with trim such to deliver a flow of air or fluid AF parallel to the or along the external surface 5a, 6a of the protection screen component [*paragraphs [0055], [0056]*].

D3 discloses a device for measuring tread depth of tyres, wherein in use a tyre can be driven over the device in a first direction [*claim 1, figure 1*]. The device comprising an opening, a light source arranged to illuminate the tyre and a camera [*page 5 lines 6-12, claim 1, figure 1*]. An air knife is used to clean transparent windows used to protect the optical elements [*page 4 lines 22-26*].

Bothe D2 and D3 also uses air flow to clean transparent surfaces. They would there for not contribute in such a way that a person skilled in the art would arrive at the solution

proposed in current independent claim 1 when starting from D1. Prior art D1-D3 teaches the solution of cleaning a surface and not setting up an air flow barrier when a lid is opened. The independent claim 1 does meet the requirements of inventive step, in the sense of Patent Act § 2, first paragraph.

Given the independent claim 1 does meet the requirements of inventive step, the dependent claims 2-14 also meet the requirements of inventive step, in the sense of Patent Act § 2, first paragraph.

With the same argument as for independent claim 1, *mutatis mutandis*, independent claim 15 also meet the requirements of inventive step, in the sense of Patent Act § 2, first paragraph.

#### Certain defects and observations

Claim 1 should be drafted in a two-part form making it easier to distinguish the prior art relevant to the application from said applications contribution to said prior art. Patent Regulations § 6 first paragraph, see also "patentretningslinjene (pr.)" (guidelines for examination) part C, chapter III, 2.1 first paragraph.

Prior art documents D2 and D3 must be included in the description, Patent Regulations § 9, see "patentretningslinjene" (guidelines for examination) part C, chapter II, 3.2.1.

#### Instructions

For the application to be approved, the stated deficiencies of the claims must be corrected.

If you amend the patent claims, you must state where in the application as filed support for the amendment is found, ref. Regulations to the Norwegian Patents Act (Patent Regulations), Section 20.

If you file an amended description, you must specify which parts of the description are not in accordance with the previously filed description and specify in which way the amendments imply anything new with respect to the substantive content, ref. Patent Regulations, Section 21.

#### Time limit for response

You are invited to submit a written response within the due date above. You may respond via [Altinn](#). If you fail to respond, the application will be shelved. However, the processing of the application may be resumed by paying a fee. Ref. Norwegian Patents Act, Section 15, third paragraph and Regulation Relating to Payments etc. to the Norwegian Industrial Property Office and the Board of Appeal for Industrial Property Rights (Regulation on fees), Section 26. You may request an extension of the due date, see «patentretningslinjene del A, kap. I, punkt 5.1» Examination Guidelines, part A, Chapter I, 5.1 (in Norwegian only). This must be done within the due date.

For general provisions regarding submitting of documents and payments, see Regulation on fees, Sections 1-6 and 8.

#### Additional information to the applicant

##### Application documents in English - provisional protection

The patent application will be published 18 months after it was first submitted. In order to obtain provisional protection for the invention described in the application from the publishing date, you must submit a translation of the claims into Norwegian. The patent claims in Norwegian will form the basis for provisional protection during the application period. The provisional protection applies only insofar as the Norwegian and English texts correspond with each other. Provisional protection takes effect once you have supplied a translation of the claims and we have published a notice of this in the Norwegian Official Patent Gazette (Norsk patenttidende).

##### Postponement of grant

A prospective grant of a patent implies that all documents of the application become publicly available, even when this happens earlier than 18 months after the filing date. However, you may request that the grant of the patent shall be postponed until the application becomes publicly available according to Norwegian Patents Act, Section 22, second paragraph, i.e. after 18 months, see Regulations to the Norwegian Patents Act (Patent Regulations), Section 33. The request for postponement should be filed in a separate letter.

##### Supplementary search

A novelty search is not considered to be complete if it was carried out at a time when the newest relevant material was not yet included in the search material. You can request a supplementary search to disclose whether there exist older patent applications, not publicly available when the first novelty search was done. This may be national patent applications, EPO applications that may apply to Norway, see Norwegian Patents Act, Section 66f or international patent applications that have been continued in Norway according to Norwegian Patents Act, Section 31. Such applications may prevent novelty according to Norwegian Patents Act, Section 2, second paragraph, second sentence. A supplementary search can not be carried out until after approximately 22 months from the filing date of the application.

For the application to be approved for grant of patent you must submit a translation into Norwegian of the approved claims, see Norwegian Patents Act, Section 21, third paragraph and Patent Regulations, Section 33a.

##### Information about patenting abroad

If your intention is to apply for patent abroad, please be aware of the following:

1. You can apply for patent abroad with priority from the Norwegian application within 12 months from the date it was filed in Norway (the priority year). This means that the patent application filed abroad gets the same effective filing date as the application has in Norway. If anyone else has applied for a similar patent during the priority year, your patent application will precede due to its older priority.
2. You may claim priority from this application (the priority application) at the time you file the application abroad, or within 16 months from the Norwegian filing date and at the latest within four (4) months after filing abroad. You must also submit a certificate of priority. The Norwegian Industrial Property Office issues such a certificate of priority on demand if a set fee is paid.

For your information

Relevant laws and regulations, as well as Examination Guidelines are available on our webpage, [www.nipo.no](http://www.nipo.no).

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Please contact us if you have any questions.

Sincerely,

Jan Frode Næss  
Telephone: +47 22 38 75 81

Enclosures: cited publications, search report