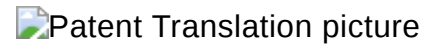


Nøkkelinformasjon

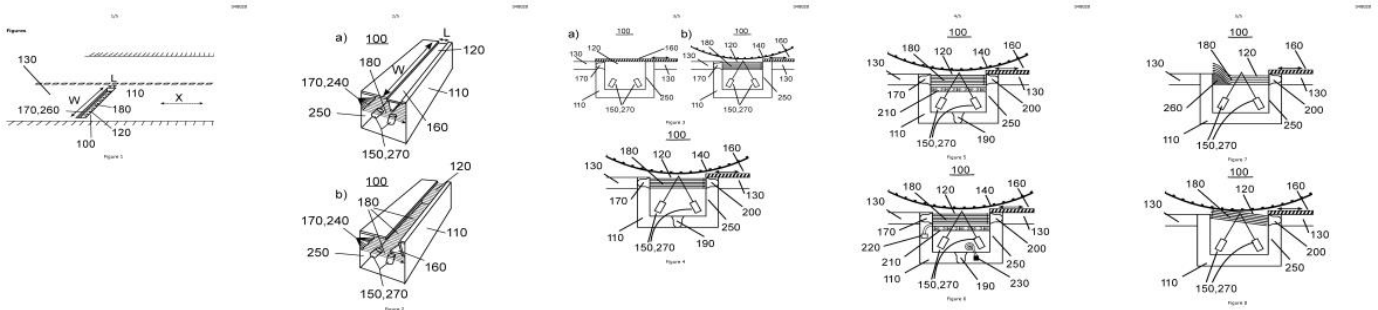
Saken / databasen er sist oppdatert	2025.02.15 13:56:00
Tittel	Drive-over tire tread depth gauging system and method
Status	I kraft
Hovedstatus	2024.06.24 Meddelt
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Allment tilgjengelig	2022.03.21
Meddelt	2024.06.24
Søker	ROADGUARD AS (NO)
Innehaver	ROADGUARD AS (NO)
Oppfinner	Christian Wilhelm Stang (NO) se mer/flere nedenfor
Fullmektig	AWA NORWAY AS (NO)
Patentfamilie	Se i Espacenet

Sammendrag og figur



The disclosure describes a drive-over tire tread depth gauging system (100), the system (100) comprising a housing (110) comprising an optical opening (120), where the housing (110) is configured to be embedded in a road (130) such that a tire (140) of a vehicle can roll across the optical opening (120) of the housing (110), an optical scanner (150) arranged inside the housing (110), where the optical scanner (150) is configured to measure, through the optical opening (120) of the housing (110), the tread depth of the tire (140) as the tire (140) rolls across the optical opening (120) of the housing (110), a housing lid (160) movable between a closed position in which the optical opening (120) is covered by the housing lid (160), and an open position in which the optical opening (120) is uncovered or partly covered by the housing lid (160), and at least one air nozzle (170) configured to continuously provide an air flow barrier (180) between the optical scanner (150) and the optical opening (120) of the housing (110) whenever the housing lid (160) is in the open position. The disclosure also describes method for employing a drive-over tire tread depth gauging system (100) and the use of such a system.

Se forsidefigur og sammendrag i Espacenet



Beskrivelse og krav

B1

Beskrivelse

Field of disclosure

The disclosure relates to the field of optical systems.

Background

[0001] Tire treads are generally employed for improving the traction of tires with the ground, for example against wet surfaces by preventing hydroplaning. Treaded tires are particularly important in cold climates that are prone to snowfall and frost, as wide treads are commonly employed in order to give traction with snow and ice. Tire treads are unfortunately prone to wear, hence causing a reduction of traction over time, and eventually resulting in a need to replace the tire.

[0002] In order to maintain road safety, most jurisdictions have introduced requirements on tire tread depth. However, as it is generally the responsibility of the owner of the vehicle to ensure that the tread depths are within the legal limits, many vehicles may be found on the road equipped with tires that are not road legal. Increasing international travel, and varying requirements for tread depths across international border further contribute to a high number of vehicles on the road without road legal tires. The latter being a particular problem when freight is transported by road into a country with icy conditions from a country with a warm and generally frost free climate.

[0003] In order to improve road safety, various national authorities have recently started showing interest in installing automatic drive-over tire tread depth gauging sensors in the road that are

Krav

Claims1. A drive-over tire tread depth gauging system (100), the system (100) comprising:a housing (110) comprising an optical opening (120), where the housing (110) is configured to be embedded in a road (130) such that a tire (140) of a vehicle can roll across the optical opening (120) of the housing (110), an optical scanner (150) arranged inside the housing (110), where the optical scanner (150) is configured to measure, through the optical opening (120) of the housing (110), the tread depth of the tire (140) as the tire (140) rolls across the optical opening (120) of the housing (110), a housing lid (160) movable between a closed position in which the optical opening (120) is covered by the housing lid (160), and an open position in which the optical opening (120) is uncovered or partly covered by the housing lid (160), and at least one air nozzle (170) configured to continuously provide an air flow barrier (180) between the optical scanner (150) and the optical opening (120) of the housing (110) whenever the housing lid (160) is in the open position.2. The drive-over tire tread depth gauging system (100) according to claim 1, where the at least one air nozzle (170) is configured to provide an air flow from within the housing (110), out through the optical opening (120) of the housing (110).3. The drive-over tire tread depth gauging system (100) according to claim 1 or 2, further comprising lower suction means (190) for extracting any one or more of air, liquid, dust, sand, salt and gravel at least from below the air flow barrier (180). 4. The drive-over tire tread depth gauging system (100) according to any one of the preceding claims, further comprising upper suction means (200) for extracting any one or more of air, liquid, dust, sand, salt and gravel at least from between the air flow barrier (180) and the optical opening (120) of the housing (110). 5. The drive-over tire tread depth gauging system (100) according to claim 4, where

Hva betyr A1, B, B1, C osv?

Klasser

IPC-klasse

G01M 17/02

B08B 5/02

CPC-klasse

G01M 17/02

G01M 17/027

B08B 5/02

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Din referanse: 176537-FRMN/HIVL

Anførte dokumenter

US 9046446 B1 (B1)
EP 3495767 A1 (A1)
WO 2018145776 A1 (A1)

Sakshistorikk

Statushistorie

Hovedstatus	Beslutningsdato, detaljstatus
2024.06.24 Meddelt	2024.06.21 Patent meddelt (B1)
2022.02.18 Under behandling	2024.04.15 Godkjent til meddelelse
2022.02.18 Under behandling	2022.09.18 Første realitetsuttalelse foreligger
2022.02.18 Under behandling	2022.03.21 Formaliakontroll utført
2022.02.18 Under behandling	2022.02.21 Formaliakontroll utført
2022.02.18 Under behandling	2022.02.21 Mottatt

Korrespondanse

Dato	Type korrespondanse	Journal beskrivelse
2024.06.28	Utgående	PT Registreringsbrev nasjonal patent (15) (PT20220226)
2024.04.16	Utgående	Intention to grant
2024.03.18	Innkommende, AR606482785	Korrespondanse (Hovedbrev inn)
2024.01.04	Utgående	PT Varsel om betaling av første årsavgift (3317) (PT20220226)
2023.09.19	Innkommende, AR569889245	Korrespondanse (Hovedbrev inn)
2022.10.20	Innkommende, AR511956393	Korrespondanse (Hovedbrev inn)
2022.09.23	Innkommende	Figur til sammendraget
2022.09.18	Utgående	20220226_1618735_PT 08 Eng
2022.03.21	Innkommende	Korrespondanse (Hovedbrev inn)
2022.03.18	Innkommende, AR480785689	Korrespondanse (Hovedbrev inn)
2022.02.21	Utgående	Formal Examination 1
2022.02.21	Utgående	Infobrev til oppfinner
2022.02.18	Innkommende, AR476066887	Søknadsskjema Patent

Informasjon om ikke tilgjengelige dokumenter

Betaling

Til betaling:

Betalingshistorikk:

Beskrivelse / Fakturanummer	Betalingsdato	Beløp	Betaler	Status
Årsavgift 4. avg.år.	2025.01.16	1760,0	AWA NORWAY AS	Betalt og godkjent
32405231	2024.06.13	4900	AWA NORWAY AS	Betalt
Årsavgift 1. tom 3. avg.år.	2024.01.29	2100	AWA NORWAY AS	Betalt og godkjent
32203044	2022.02.21	2130	AWA NORWAY AS	Betalt

Denne oversikten kan mangle informasjon, spesielt for eldre saker, om tilbakebetaling, internasjonale varemerker og internasjonale design.

Publikasjon(er)

Lenker til publikasjoner og Norsk Patenttidende (søkbare tekstdokumenter)

Siste publiserte versjon av patent

Allment tilgjengelig patentsøknad

Norsk Patenttidende - ved meddelelse

Nye digitale Norske Tidende, nyhet om tjenesten ved lansering

Om Norske Tidende

Lenker til publikasjoner (ikke søkbare tekstdokumenter)

B1

A1

Hva betyr A1, B, B1, C osv?