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Oslo, 2019.07.17

Your ref.: 132068 JH
Application no.: 20181333 (please include in your reply)
Applicant: Universitetet i Stavanger, Harbin Engineering University
Due date: 2020.01.17

Office action in patent application no. 20181333

Basis of the opinion

Description received 2018.10.18
Claims received 2018.10.18
Drawings received 2018.10.18

Conclusion

The subject matter of the present application is considered to be new and involve an inventive step, and is therefore patentable.

Results of the novelty search

Reference is made to the following documents:

D1: US 5762024 A
D2: US 2006130728 A1
D3: GB 2437637 A
D4: CN 206314415 U
D5: US 2017/0247087 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.

Novelty

The subject-matters of the present patent application provide a module-based marine fish farm platform comprising a mooring module and fish cage modules with grid-frame structures. The mooring module comprises a turret that is moored to the seabed and the grid frame is rotatable around the turret. The fish cage modules are connectable to the grid-frame structure of the mooring module via hinge devices.

Document D1, regarded as being the closest prior art to the subject-matter of independent claim 1, discloses an aquaculture system comprising multiple floating fish farms that are coupled adjacent a central floating service platform. The fish farms and the service platform are moored to the seabed. The service platform has sufficient structural rigidity to withstand forces from currents in the body of water (column 2, paragraph 2; figure 1; claims 4 and 5).

D2 discloses a single point mooring fish breeding construction, in which 2-5 fish cages are arranged serially, fastened to a flexible structure well fitted for absorbing heavy sea energy. The construction is connected to an anchor via flexible mooring rope, and a rope tension moderating buoy, allowing free movement in the water. (page 2, paragraph [0036]; claim 1; figures 1-5).

D3 discloses a buoy for use in fish farm comprising mooring means for connection to the sea bed, an umbilical link to a floating barge and a plurality of connections to individual fish cages (claim 1 and 7-11; figures 1-4).

D4 discloses a deep sea horizontal diving floating single-station system, through using single-point mooring system (abstract and figures).

D5 describes a sea bed mooring system in which fish cages can be connected (claim 4; figures 4a and b).

The fish farm platform of claim 1 differs from the aquaculture system known from D1 in that the modules have grid-frame structures, that the mooring module is rotatable around a turret and in that each fish cage modules are connected to the grid-frame structure of the mooring module via a hinge device. Claim 1 is therefore novel, and so are the claims 2-20.

Inventive step

The objective problem to be solved by the present invention according to claim 1, in view of D1, may be regarded as to provide an improved marine fish farm platform.

The solution to this problem proposed in claim 1 of the present application are not known from prior art and such module-based marine fish farm platform would not be obvious to the person skilled in the art, faced with the problem posed. The subject-matter of claim 1 is therefore patentable. The same reasoning is valid for claims 1-20, thus they are also considered to meet the requirement of inventive step.

Certain defects and observations

The independent claims are not drafted in two-part form, which in the present case would be appropriate, ref. Regulations to the Norwegian Patents Act (Patent Regulations), Section 6, see also Examination Guidelines, part C, Chapter III, 2.2.3. Those features known from prior art should be placed in the preamble and the remaining features should be included in the characterising part of the claims.

Instructions

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).

Application documents in English – patent claims in Norwegian at the time of grant

We would like to remind you that before the time of 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.

For your information

Relevant laws and regulations, as well as Examination Guidelines are available on our webpage, www.nipo.no.

Information to applicants using Altinn: You will find cited publications linked in the enclosed search report or as electronic attachments. They will be forwarded in paper format only if not available in electronic format or if protected by copyright.

Please contact us if you have any questions.

Sincerely,

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Enclosures: cited publications, search report