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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA,

(54) **Title:** REINFORCED FLEXIBLE STRUCTURE OR SEAL

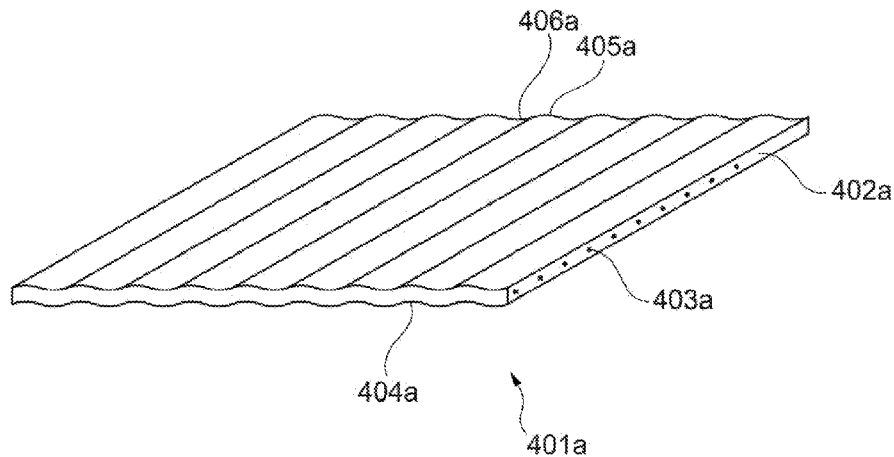


Fig. 4a

(57) **Abstract:** A reinforced flexible seal ( 101 and 201) for sealing a gap or space, such as a gap or space between an edge of a wall, fence, door, door leaf or wing, port or window and a surface adjacent to the wall, fence, door, door leaf or wing, port or window is provided. The flexible seal may be used to provide a barrier below a door leaf or door wing in order to avoid entrance of for example unwanted animals. The reinforced flexible seal has a width and a length and comprises a flexible outer material (102a, 102b, 202a, 202b), and a plurality of elongated metal wires (103, 203) embedded in the flexible outer material and running substantially in a longitudinal direction of the reinforced flexible seal with at least part of said elongated metal wires arranged at a distance to each other. For at least one of the embedded elongated metal wires, at least part of said metal wire holds several bent, bulging or wavelike deformations in the longitudinal direction of the wire.



SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,  
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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**Published:**

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK2018/050413

A. CLASSIFICATION OF SUBJECT MATTER E06B 7/22 (2006.01), E06B 7/16 (2006.01), A01M 29/30 (2006.01) According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC and CPC: A01M1, A01M29, E04D3, E04D12, E04D13, E05C19, E06B3, E06B7, F16J15 CPC: B29K21, D10B2505/06, Y10S277/921		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  DK, NO, SE, FI: Classes as above.		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPL, EPODOC, TXTE		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X; A	<u>US 4228209 A</u> (CHAVANNES MARC A) 1980.10.14. See abstract, claim 20 and figures.	48-51; 1-47
X; A	<u>US 4520562 A</u> (SADO RYOICHI et al.) 1985.06.04. See abstract, col. 4, lines 56-65 and figures.	48-51; 1-47
A	<u>US 4624093 A</u> (GIBSON HAROLD R) 1986.11.25. See col. 2, lines 58-68 and figures.	1-51
A	<u>US 3708871 A</u> (MINTZ E) 1973.01.09. See col. 4, lines 65-67 and figures.	1-51
A	<u>US 1352813 A</u> (KENNICOTT CASS L et al.) 1920.09.14. See figures.	1-51
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.		
* Special categories of cited documents: “A” document defining the general state of the art which is not considered to be of particular relevance “E” earlier application or patent but published on or after the international filing date “L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) “O” document referring to an oral disclosure, use, exhibition or other means “P” document published prior to the international filing date but later than the priority date claimed “T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention “X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone “Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art “&” document member of the same patent family		
Date of the actual completion of the international search	Date of mailing of the international search report	
04/02/2019	03/05/2019	
Name and mailing address of the ISA Nordic Patent Institute Helgeshøj Allé 81 DK - 2630 Taastrup, Denmark. Facsimile No. + 45 43 50 80 08	Authorized officer  Mehrak Maleki Telephone No. +45 43 50 80 43	

**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

A. A reinforced flexible seal. (Claims 1 – 39)

B. A method for forming deformations in a reinforced flexible seal. (Claims 48 and 49)

C. A roll processing system for forming a number of deformations in a reinforced flexible seal (Claims 50 and 51)

The invention in B and C is not limited to the seal disclosed in claims 1-39 and is generally about a method and a system for forming a reinforced flexible seal.

1.  As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
3.  As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4.  No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/DK2018/050413

Patent document cited in search report / Publication date	Patent family member(s) / Publication date
US 4520562 A    1985.06.04	JPS 5672944 A    1981.06.17 JPS 6038809 B2    1985.09.03
US 4228209 A    1980.10.14	BE 881242 A    1980.05.16 US 4341579 A    1982.07.27
US 4624093 A    1986.11.25	AU 4072385 A    1985.10.17 AU 566473 B2    1987.10.22 EP 0159136 A1    1985.10.23 EP 0159136 B1    1988.11.02 JPS 60236852 A    1985.11.25 JPH 0316295 B2    1991.03.05 BR 8501707 A    1985.12.10 ES 294132 U    1986.10.16 ES 294132 Y    1987.06.16 ES 294131 U    1986.10.16 ES 294131 Y    1987.06.16 ES 294130 U    1986.10.16 ES 294130 Y    1987.06.16 CA 1215927 A    1986.12.30 ES 295732 U    1987.05.01 ES 295732 Y    1987.12.01 IE 56429 B1    1991.07.31 IE 850562 L    1985.10.12
US 3708871 A    1973.01.09	NONE
US 1352813 A    1920.09.14	NONE