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(11)

EP 4 454 533 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
25.12.2024 Bulletin 2024/52

(51) International Patent Classification (IPC):
A47L 13/10 (2006.01) A46B 5/00 (2006.01)
A47L 13/52 (2006.01)

(43) Date of publication A2:
30.10.2024 Bulletin 2024/44

(52) Cooperative Patent Classification (CPC):
A47L 13/52; A46B 9/025; A46B 9/028;
A47L 13/10; A46B 2200/302

(21) Application number: **24196252.1**

(22) Date of filing: **11.06.2021**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR

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(30) Priority: **12.06.2020 US 202016900415**

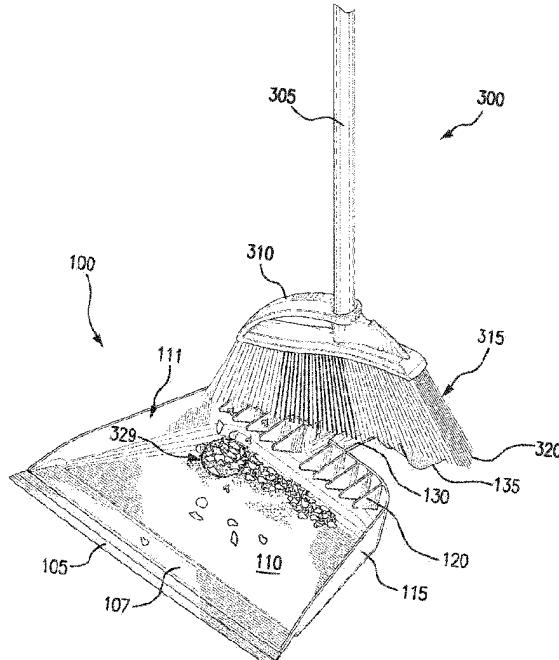
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(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
21178921.9 / 3 922 158

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(54) BEVELED BROOM AND STEP-ON DUSTPAN CLEANING SYSTEM

(57) A beveled broom and step-on dustpan cleaning system including a step-on dustpan having a step-on portion configured to allow a user to collect debris in a receptacle of the dustpan when a force is applied on the step-on portion. The dustpan includes a lip portion which is configured to seal against a floor surface upon a user stepping on the step-on portion to collect debris. A beveled broom having a broom head configured with a beveled or chamfered shape at a functional angle to provide an effective and efficient contact surface to a floor surface to collect debris during use.





EUROPEAN SEARCH REPORT

Application Number

EP 24 19 6252

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	<p>A US 2012/260453 A1 (WARD BILL [US] ET AL) 18 October 2012 (2012-10-18) * paragraphs [0029] - [0031] *</p> <p>-----</p> <p>A WO 2019/089079 A1 (WISP IND INC [US]) 9 May 2019 (2019-05-09) * paragraphs [0075] - [0080] *</p> <p>-----</p> <p>A US 1 908 730 A (CALDWELL JAMES R ET AL) 16 May 1933 (1933-05-16) * page 1, lines 34-73 *</p> <p>-----</p>	1-13	INV. A47L13/10 A46B5/00 A47L13/52
15		1-13	
20		1-13	
25			
30			TECHNICAL FIELDS SEARCHED (IPC)
			A47L A61D A46B
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The present search report has been drawn up for all claims			
1	Place of search	Date of completion of the search	Examiner
	Munich	19 November 2024	Eckenschwiller, A
CATEGORY OF CITED DOCUMENTS			
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ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-11-2024

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	US 2012260453 A1	18-10-2012	US 2012260453 A1 US 2013091651 A1 US 2014310909 A1 US 2016338564 A1	18-10-2012 18-04-2013 23-10-2014 24-11-2016
20	WO 2019089079 A1	09-05-2019	NONE	
25	US 1908730 A	16-05-1933	NONE	
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35				
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EPO FORM P0459

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