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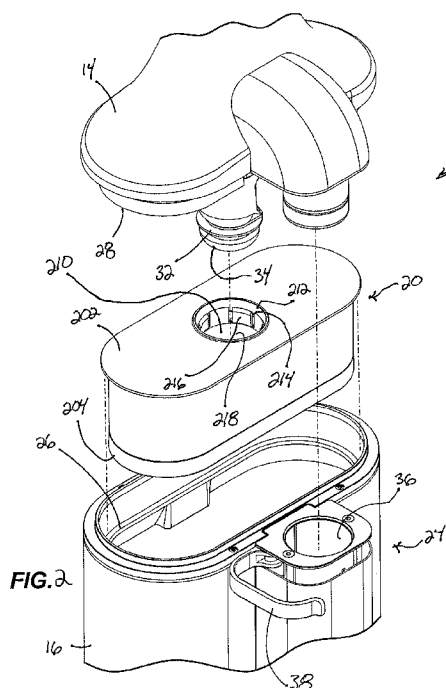
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(54) Title: VACUUM CLEANER AND FILTER FOR A VACUUM CLEANER



(57) Abstract: A vacuum cleaner 10 including a suction inlet 18, a conduit 32 in fluid communication with the suction inlet 18, a filter 20 having a valve 210 releasably connected to a filter inlet 212, the filter 20 configured to collect debris drawn through the suction inlet 18. The vacuum cleaner 10 further comprising a release mechanism 22 moveable from a first position to a second position. In the first position, the filter 20 is in fluid communication with the conduit 32 to collect debris with the valve 210 being open, and in the second position, the filter 20 is disconnected from the conduit 32 with the valve 210 being closed. Movement of the release mechanism 22 between the first and second positions closes the valve 210.

MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM,
TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, ML, MR, NE, SN, TD, TG).

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- *with international search report (Art. 21(3))*
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2017/027671

A. CLASSIFICATION OF SUBJECT MATTER
INV. A47L9/14 A47L11/40
ADD.

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)
A47L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 564 467 A (CRANMER GEORGE H) 14 August 1951 (1951-08-14) column 2, line 3 - column 4, line 54; figures 1,2	1-5
A	----- GB 2 407 257 A (LG ELECTRONICS INC [KR]) 27 April 2005 (2005-04-27) figures 4-14B	1-5
A	----- US 2 615 531 A (ALLEN OLIVER L) 28 October 1952 (1952-10-28) column 1, line 40 - column 3, line 67; figures 1,3	1-5



Further documents are listed in the continuation of Box C.



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

11 September 2017

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2017/027671

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:

see additional sheet

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 an 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.:

1-5

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5

A vacuum cleaner ejecting the filter

2. claims: 1, 6, 7

Engagement member

3. claims: 1, 8, 9

Seal

4. claims: 10, 11

A filter comprising an upper and a lower housing

5. claims: 12-18

A filter with a movable filter media

6. claims: 19-21

A filter with a filter media encased in a upper housing

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2017/027671

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2564467	A	14-08-1951	NONE

GB 2407257	A	27-04-2005	AU 2004200020 A1 05-05-2005
			CN 1608568 A 27-04-2005
			GB 2407257 A 27-04-2005
			US 2005081323 A1 21-04-2005

US 2615531	A	28-10-1952	NONE
