



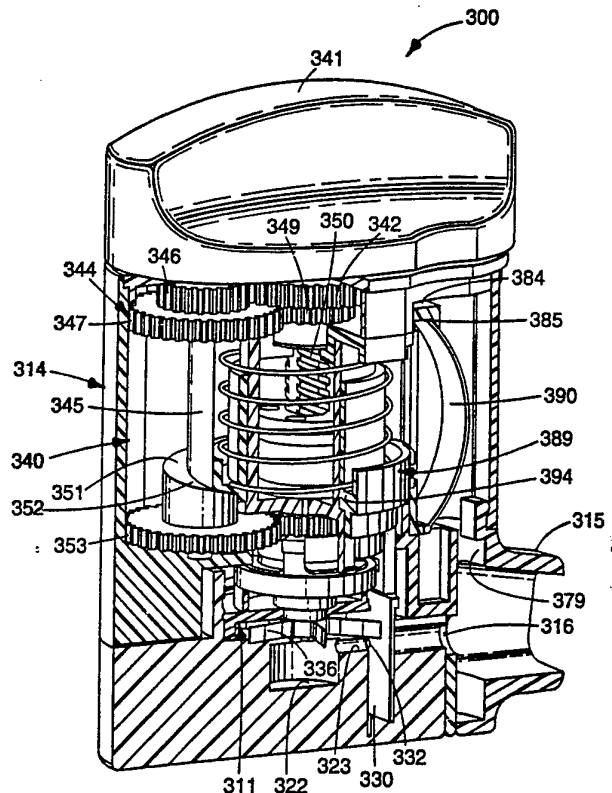
## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification <sup>5</sup> : <b>A61M 15/00</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 94/11044</b> (43) International Publication Date: 26 May 1994 (26.05.94)</p>
<p>(21) International Application Number: PCT/US93/10755 (22) International Filing Date: 8 November 1993 (08.11.93) (30) Priority data: 07/975,625 12 November 1992 (12.11.92) US (71) Applicant: MINNESOTA MINING AND MANUFACTURING COMPANY [US/US]; 3M Center, P.O. Box 33427, Saint Paul, MN 55133-3427 (US). (72) Inventors: WHALEY, Ralph, D. ; SHINNICK, Mark, S. ; THIEL, Charles, G. ; KRIEGL, DonGene ; REEDER, Thomas, W. ; PATTOCK, Brian, M. ; MATTILA, Robert, J. ; TURGEON, Thomas, A. ; P.O. Box 33427, Saint Paul, MN 55133-3427 (US).</p>		<p>(74) Agents: HOHENSHELL, Jeffrey, J. et al. ; Office of Intellectual Property Counsel, Minnesota Mining and Manufacturing Company, P.O. Box 33427, Saint Paul, MN 55133-3427 (US). (81) Designated States: AU, BR, CA, JP, KR, NO, NZ, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 15 September 1994 (15.09.94)</p>

(54) Title: POWDER INHALER

(57) Abstract

A novel powdered medicament dispenser (300) is disclosed. The powder medicament dispenser (300) includes an inhalation activation assembly (380) and transmission assembly (340) activated by a handle (341). The inhalation activation assembly (380) includes a flexible membrane (390).



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## INTERNATIONAL SEARCH REPORT

 Internat: Application No  
 PCT/US 93/10755

 A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 5 A61M15/00

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 5 A61M

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 practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US,A,5 113 855 (NEWHOUSE) 19 May 1992	1-15,20, 21,24
A	see column 6, line 61 - column 8, line 21; figures 16,18-20 ---	35,36,39
Y	EP,A,0 441 643 (PESENTI ET AL.) 14 August 1991	1,3-12, 20
A	see column 4, line 19 - column 5, line 54; figures 1-4 ---	25,39,40
A	WO,A,92 04068 (BOEHRINGER GMBH) 19 March 1992 see abstract; figures 1,4,5 ---	1,9,10
Y	GB,A,2 144 997 (DRACO AB) 20 March 1985	2,13-15, 21,24
A	see page 3, line 19 - line 86; figures 1-3,7,8 ---	35,36
	-/--	

 Further documents are listed in the continuation of box C.

 Patent family members are listed in annex.

\* Special categories of cited documents :

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- "&" document member of the same patent family

Date of the actual completion of the international search

20 July 1994

Date of mailing of the international search report

01.08.94

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## INTERNATIONAL SEARCH REPORT

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO,A,90 07351 (SCHENK) 12 July 1990 see abstract; figures 3,4 -----	2,21,35
A,P	WO,A,93 03785 (3M) 4 March 1993  see figures -----	2,18, 21-23, 26,27,35

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 93/ 10755

**Box I Observations where certain claims were found unsearchable (Continuation of item 1 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 II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

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

1. CLAIMS 1, 3-12: A POWDER INHALER WITH MEMBRANE MECHANISM FOR BREATH TRIGGERING
2. CLAIMS 2, 13-41: A BREATH TRIGGERED INHALER WITH PRESSURISATION/DOSAGE MECHANISMS AND A TRANSMISSION SYSTEM FOR THIS INHALER.

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 fee, this Authority did not invite payment of any additional fee.
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. No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

Internatu Application No

PCT/US 93/10755

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