



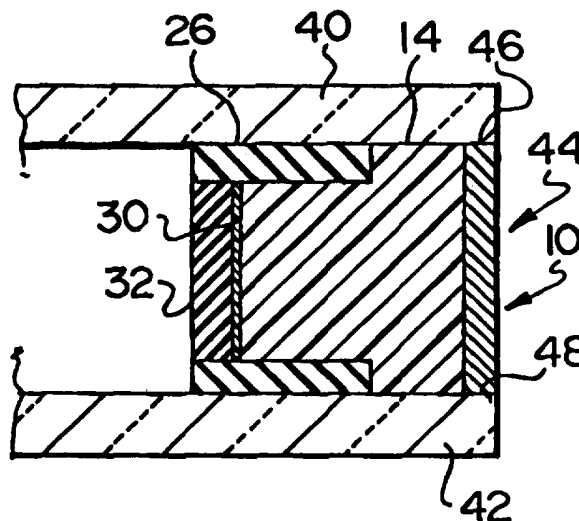
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁶ : E06B 3/663</p>	<p>A3</p>	<p>(11) International Publication Number: WO 97/06332 (43) International Publication Date: 20 February 1997 (20.02.97)</p>
<p>(21) International Application Number: PCT/CA96/00537 (22) International Filing Date: 8 August 1996 (08.08.96) (30) Priority Data: 08/513,180 9 August 1995 (09.08.95) US (60) Parent Application or Grant (63) Related by Continuation US 08/477,950 (CIP) Filed on 7 June 1995 (07.06.95) (71)(72) Applicant and Inventor: LAFOND, Luc [CA/CA]; 23 Woodvalley Drive, Etobicoke, Ontario M9A 4H4 (CA). (74) Agents: SHARPE, Paul et al.; Suite 606, 225 Metcalfe Street, Ottawa, Ontario K2P 1P9 (CA).</p>	<p>(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 03 April 1997 (03.04.97)</p>	

(54) Title: INSULATED ASSEMBLY INCORPORATING A THERMOPLASTIC BARRIER MEMBER

(57) Abstract

An insulating spacer (10) for use in glazing assemblies is provided. The spacer comprises a foamed insulating body and further includes a second sealant material. The insulating body partially contacts (14) the substrates (40, 42) as does the sealant (26) to provide a double seal when used in a glazing assembly. In other embodiments the spacer is a composite of foam, sealant material, rigid plastics and desiccated matrices (32). A further embodiment discloses an undulating foam spacer body for easy manipulation about the corner in glazing assemblies. The result of incorporation of the foam is a substantially energy efficient spacer and assembly.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 96/00537

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 E06B3/663

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 6 E06B

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.
X Y A	DE 11 03 528 B (F.X. BAYER) 30 March 1961 see column 1, line 37 - column 4, line 14 see figures ---	1,13 2,3,6, 10-12 14,16,27
X A	US 3 026 582 A (F.X.BAYER) 27 March 1962 see column 1, line 37 - line 66; figures --- -/--	1,13 12,14, 16,17

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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- "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

30 October 1996

Date of mailing of the international search report

04. 03. 97

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 96/00537

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 4 950 344 A (GLOVER) 21 August 1990 cited in the application see column 3, line 1 - line 9 see column 3, line 39 - line 51 see column 3, line 64 - column 5, line 53 see column 6, line 15 - column 8, line 2 see figures 1-5 ---	2,3 1,6,9, 10, 13-15, 17,19, 20,23, 27,28,30
Y A	CH 426 183 A (CIMEI) 15 June 1967 see page 1, line 20 - page 2, line 26; figures ---	6 1,12-17, 23,27,28
Y A	GB 2 023 209 A (BOSTIK) 28 December 1979 see page 1, line 3 - page 2, line 63 see page 5, line 3 - line 34 see page 7, line 42 - line 86 see figure 3 ---	10-12 1,10, 12-14, 16,30
A	DE 24 24 225 A (SCANGLAS) 12 December 1974 see page 3, paragraph 4 - page 5, paragraph 1; figure 1 ---	1,10,12, 13,17, 27,28,30
A	US 5 436 040 A (LAFOND) 25 July 1995 see column 4, line 59 - column 6, line 22; figures ---	1,6,7, 9-11, 13-17, 23,30
A	US 2 025 716 A (BLACK) 31 December 1935 see page 1, left-hand column, line 27 - line 36; figures ---	8
A	US 3 791 910 A (BOWSER) 12 February 1974 ---	
P,A	US 5 447 761 A (LAFOND) 5 September 1995 see the whole document ---	1-3,6,7, 10,11, 13-15, 23,30
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INTERNATIONAL SEARCH REPORT

Inter. nal Application No PCT/CA 96/00537
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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.
P,A	US 5 441 779 A (LAFOND) 15 August 1995 see column 3, line 19 - column 4, line 40; figures -----	1,3-5, 10,13, 14,23, 27,28,30

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CA 96/00537

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:

see annex

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.:

1-23, 27-30

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

International Application No. **PCT/CA 96/00537**

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

1.- CLAIMS 1-23, 27-30:

A composite insulating spacer provided with sealant containing recesses associated with a dessicant matrix separate from said spacer, fluid barrier means being positioned between a rear face of said spacer and said sealant and/or dessicant.

2.- CLAIMS 24-26:

A composite spacer comprising an undulating body of insulating material

INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No PCT/CA 96/00537
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 1103528 B		NONE	

US 3026582 A	27-03-62	NONE	

US 4950344 A	21-08-90	NONE	

CH 426183 A		NONE	

GB 2023209 A	28-12-79	NONE	

DE 2424225 A	12-12-74	NONE	

US 5436040 A	25-07-95	CA 2044779 A	18-12-92

US 2025716 A	31-12-35	NONE	

US 3791910 A	12-02-74	US 4215164 A	29-07-80

US 5447761 A	05-09-95	NONE	

US 5441779 A	15-08-95	NONE	
