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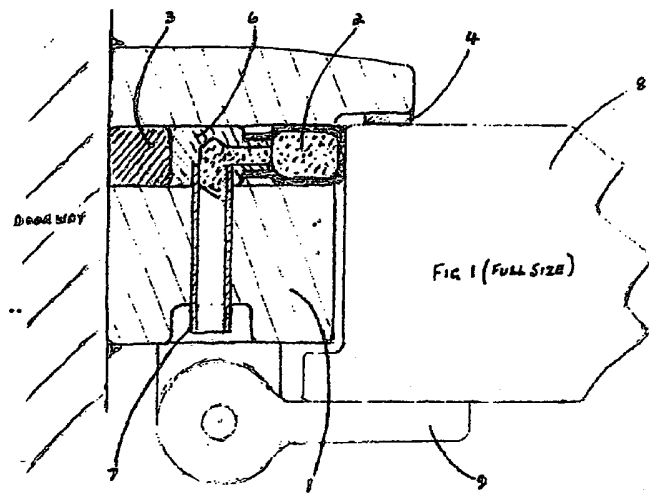
(51) INT CL:
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(56) Documents Cited:
GB 2369846 A **GB 2342377 A**
GB 1342190 A **EP 1510645 A2**
DE 019736157 C1 **DE 003329829 A**
DE 002206337 A1 **FR 002269281 A5**
US 4706413 A

(58) Field of Search:
UK CL (Edition X) E1J
INT CL E06B
Other: EPODOC, TXTE, WPI

(54) Abstract Title: **Seal for doorway**

(57) A flood prevention system comprising a seal assembly for a doorway. The seal assembly has an inflatable seal 2 and a compression seal 3. The inflatable seal is inflated via an all purpose air valve 7 which has either a one way 6 or two way (5 Figure 3) air unison. The valve means may be at a specific height, for example hinge height on the door. The inflatable seal has a box shaped cross section and is manufacture to cater for right angled bends and corners. The inflatable seal may be able to stretch to accommodate different sized doors. The compression seal 3 is situated between the door frame and the doorway or wall and may be replaced with a second inflatable seal (Figures 2 and 3).



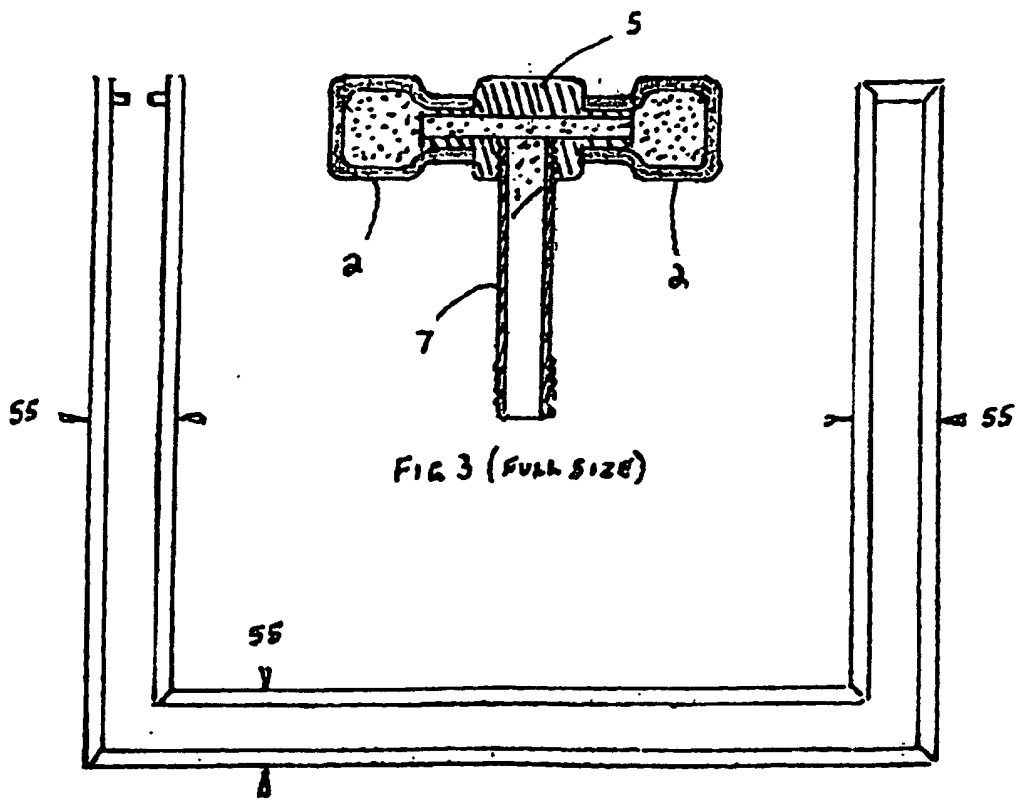
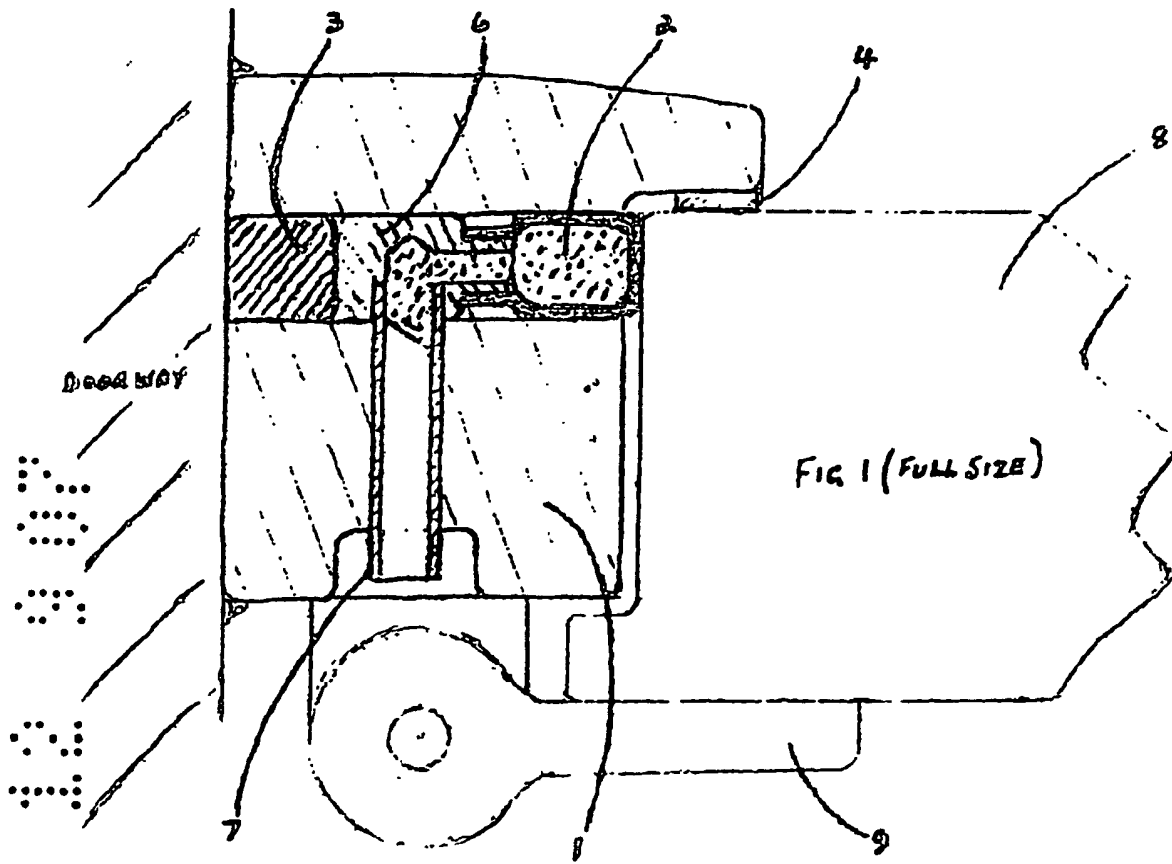


FIG 3 (FULL SIZE)

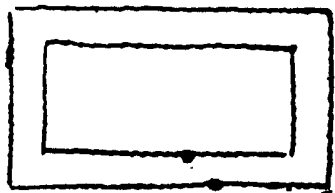


FIG 7

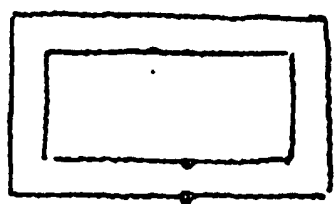


FIG 6

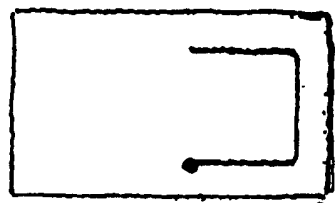


FIG 5

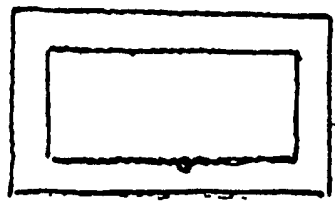


FIG 4

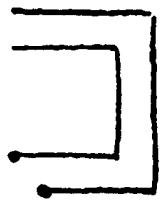


FIG 9

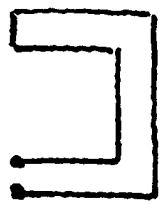


FIG 8

DOORWAY FLOOD PREVENTION SYSTEM

MY INVENTION RELATES TO FLOODING, IN PARTICULAR TO IMPROVEMENTS TO MINIMIZE THE VAST COST AND DEVASTATION CAUSED BY FLOOD WATERS.

SANDBAGGING IS WIDELY USED WITH LIMITED EFFECT AND I BELIEVE MY DOORWAY FLOOD PREVENTION SYSTEM, AT RELATIVELY LOW COST AND SUBSTANTIAL IMPROVEMENT, WILL GREATLY BENEFIT THIS PROBLEM

THERE ARE MANY VARIED SEALING OPTIONS, AS WILL BE ILLUSTRATED.

FIG 1 ON PAGE 2 SHOWS A DETAILED CROSS SECTION OF A DOOR FRAME COMBINING AN AIR INFLATED SEAL FOR THE DOOR AND A COMPRESSION SEAL FOR THE DOOR FRAME.

FIG 2 ON PAGE 2 ILLUSTRATES AN OPTION USING AIR INFLATED SEALS FOR BOTH THE DOOR AND DOOR FRAME.

FIG 3 ON PAGE 3 SHOWS A CROSS SECTION OF THE AIR INFLATION SYSTEM TO SUIT THE FIG 2 OPTION.

PAGE 3 SHOWS THE MANY SEALING OPTIONS AVAILABLE.

THE PARTS AND COMPONENTS ILLUSTRATED ARE AS FOLLOWS:-

1. DOOR FRAME
2. INFLATABLE BOX SECTION SEAL
3. COMPRESSION SEAL
4. NORMAL DOOR SEAL
5. TWO-WAY AIR UNION
6. ONE-WAY AIR UNION
7. ALL PURPOSE AIR VALVE
8. DOOR
9. DOOR HINGE

DOORWAY FLOOD PREVENTION SYSTEM

SEALING OPTIONS

FIG 4 ILLUSTRATES FULL COMPRESSION SEALING BETWEEN DOORWAY AND DOORFRAME ALONG WITH A FULL SEAL BETWEEN DOORFRAME AND DOOR.

FIG 5 ILLUSTRATES FULL COMPRESSION SEALING BETWEEN DOORWAY AND DOORFRAME ALONG WITH A PARTIALLY INFLATED SEAL BETWEEN DOORFRAME AND DOOR.

FIG 6 ILLUSTRATES FULL COMPRESSION SEALING THROUGH THE DOORWAY VIA A SINGLE AIR VALVE SYSTEM.

FIG 7 AS FIG 6 BUT WITH SEPERATE AIR VALVE SYSTEMS FOR EACH SIDE.

FIG 8 ILLUSTRATES PARTIAL COMPRESSION SEALING THROUGH THE DOORWAY VIA A SINGLE AIR VALVE SYSTEM.

FIG 9 AS FIG 6 BUT WITH SEPERATE AIR VALVE SYSTEMS FOR EACH SIDE.

CLAIMS

1. I CLAIM THAT MY DOORWAY FLOOD PREVENTION SYSTEM WITH MANY SEALING OPTIONS AT RELATIVELY LOW COST, WILL EFFECTIVELY PREVENT FLOOD WATERS ENTERING VIA A DOORWAY.
2. AS IN 1, I CLAIM THAT BOTH COMPRESSION AND INFLATION SEALING IS AVAILABLE TO SUIT NEEDS AS ILLUSTRATED ON PAGE 3.
3. AS IN 1 AND 2, I CLAIM THAT IF ONLY COMPRESSION SEALING IS REQUIRED BETWEEN DOORWAY AND DOORFRAME A SLIMMER SEAL IS POSSIBLE.
4. AS IN 1 TO 3, I CLAIM THAT THE INFLATION SEAL IS BOX SECTION SHAPED AND MANUFACTURED TO CATER FOR RIGHT-ANGLED BENDS AND CORNERS ALONG WITH UNION CONNECTION MEANS.
5. AS IN 1 TO 4, I CLAIM THAT THE ALL PURPOSE AIR VALVE OR MAYBE VALVES ARE LOCATED AT A DEFINED HEIGHT, PREFERABLY ON THE DOOR HINGE SIDE (COVER MAY BE REQUIRED).
6. AS IN 1 TO 5, I CLAIM THAT PARTS 2, 3, 5, 6 AND 7 ARE RUSTPROOF AND OF A NON-PERISHABLE NATURE.
7. AS IN 1 TO 6, I CLAIM THAT WHILST THE SEALS ARE ADEQUATELY SECURED, THE INFLATABLE SEAL AT THE DOORSTEP POINT MAY NEED SOME PROTECTION.
8. AS IN 1 TO 7, I CLAIM THAT THE INFLATABLE BOX SECTION SEAL COULD HAVE SOME STRETCH ABILITY TO ACCOMMODATE DOORWAY VARIATIONS.

Amendments to the claims have been filed as follows

CLAIMS

1. A doorway flood prevention system comprising a doorframe incorporating an air inflated seal between the doorframe and the door and an air inflated seal between the doorframe and the doorway wherein the doorframe incorporates sealing grooves on both its face facing the doorway and on its face facing the door for accommodating the air inflated seals.
2. A system according to claim 1 wherein the air inflated seals are inflatable box section seals.
3. A system according to claim 1 or claim 2 wherein the air inflated seals communicate with an all purpose air valve via a two-way air union.
4. A system according to any one of the preceding claims wherein the air inflated seals extend fully around the door frame.
5. A system according to any one of claims 1 to 3 wherein the air inflated seals extend partially around the doorframe.
6. A system according to claim 4 or claim 5 wherein the air inflated seals have a single air valve system.
7. A system according to claim 4 or claim 5 wherein the air inflated seals have separate air valve systems.
8. A system according to any one of the preceding claims wherein the air inflated seals are manufactured to cater for right-angled bends and corners along with union connection means.
9. A system according to any one of the preceding claims wherein the or each valve system is located on the door hinge side.



Application No: GB0721053.7

Examiner: Mr Philip Lawrence

Claims searched: 4-8

Date of search: 29 January 2008

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	2, 4-8	GB1342190 A (FIRMA AUG. WINKHAUS), see whole document noting portions 20 and 21.
X	4-8	GB2342377 A (PRICE), see whole document.
X	4-8	GB2369846 A (HOGARTH), see Abstract, Figures, page 3 lines 7-13.
X	4-8	US4706413 A (JAMES), see Abstract, Figures, col. 2 lines 60-65.
X	4-8	FR2269281 A5 (GABARRA), 21.11.1975 (see WPI Accession Abstract No. 1976-B4787X [07] and Figures).
X	4-8	DE3329829 A (LEU AND BAYER), 28.02.1985 (see WPI Accession Abstract No. 1985-056963 [10] and Figure 1).
A	-	DE2206337 A1 (HOFFMANN-LERESCHE CH), 24.08.1972 (see WPI Accession Abstract No. 1972-56811T [36] and Figures, noting portions 3 and 4).
A	-	EPI510645 A2 (PROMAT AND SCHMID HOLZBAU GMBH & CO), 02.03.2003 (see WPI Accession Abstract No. 2003-781023 [74] and Figures noting portion 2).

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category	P	Document published on or after the declared priority date but before the filing date of this invention
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

E1J

Worldwide search of patent documents classified in the following areas of the IPC

E06B

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
None		