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(54) Draught strip.

(57) Draught strip comprising a tape (1) allowed to be coiled. Parallel to its longitudinal axis the strip is provided with a crease line (2) in form of a slit or impression (6, 7) in the tape material (1). At one side of the crease line (2) the tape (1) comprises a self-adhesive layer (4) on which a removable covering layer (5) is provided. The slit or impression (6, 7) defining the crease line (2) consists of an uninterrupted series of subsequent zones of variable bending resistance.

fig-2

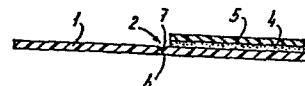
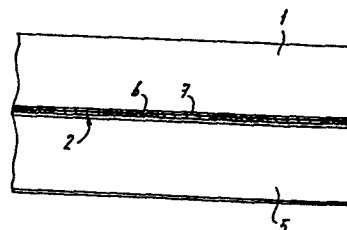


fig-3



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Draught strip.

The invention relates to a draught strip comprising a tape allowed to be coiled and provided in parallel relationship to its longitudinal axis with a crease line in form of a slit or impression in the tape material, said tape being provided at one side of the
5 crease line with a self-adhesive layer on which a removable covering layer is provided.

Such a draught strip is generally known in the market and is manufactured individually by several firms. Said draught strip consists of a flat plastic tape being coiled. In order to establish a
10 sealing one takes the desired length of the coiled tape, folds it in a V-shape along the crease line, removes the covering layer from the self-adhesive layer and then one adheres the draught strip with the adhesive leg in the rebate of the door or window frame. In this case the crease line is obtained by a slit or impression in the thickness
15 of the material. With a thickness of 0,3 mm the crease line is 0,1 mm thick. At the crease line sufficient elasticity and thus sufficient material thickness should remain as to provide that the folded leg can push outwards in a sufficient rate for accomplishing a sealing.

Once such a draught strip is positioned, then the projecting
20 leg should be folded further by closing the door or window. In many cases this means that, for closing the door yet high forces are necessary resulting from the large length over which the locally and relatively low bending resistance acts. Often the situation occurs that after positioning such a draught strip a door or window cannot
25 be closed properly anymore.

The invention has the object to provide an extremely simple solution by which said type of draught strip, although appearing simple and effective but in practice being not successful because of the disclosed problem can be made useful.

30 According to the invention said object is achieved in that the slit or impression defining the crease line consists of an uninterrupted series of subsequent zones of variable bending resistance.

A variable bending resistance implies a sequence of zones of higher and lower bending resistance. The zones having the higher
35 bending resistance and providing for adequately pressing the free leg

of the draught strip folded in a V-shape against the door or window, cover now only approximately 50% of the length of the draught strip, by which the closing force is reduced by one half without the draught strip itself showing interruptions.

5 Said variation in bending resistance may be obtained by a sequence of deep and less deep slits or impressions. With a normal depth of the slit or impression of 0,1 mm the deeper zones may have an impression of 0,2 mm and thus occupy two thirds of the thickness of the tape. Where the impression or slit is deeper the bending
10 resistance is substantially lower. However, such a reduced bending resistance cannot be applied along the whole length, because then the sealing force of the strip is insufficient. An unequal length of the zones having variable bending resistance is undesirable, because the risk of leakages occurs, a risk decreasing with reduction of the
15 length of the respective zones. Preferably, said zones are as short as possible in order to prevent the folded leg from assuming a corrugated course resulting in poor sealing.

 In stead of a variation in depth of the slit or impression also a variation in width is possible, as well as a combination of
20 variations in width and depth in which event the wider impressions or slits will also be deeper.

 The length of the subsequent zones is preferably less than 2 cm in order to provide for the influence effect of the zones having a higher bending strength onto the zones having a lower bending
25 strength is sufficiently high as to press these effectively.

 Preferably the subsequent zones have a length of less than 5 mm and it is also possible then to have the deeper slits consisting of perforations in particular with even less length. Said perforations constitute a series of very small apertures of which one may expect
30 that they result in a leakage in the draught strip. However, this is minimal if present, because by folding at the spot of the small perforation practically the aperture of the perforation is closed.

 The zones of different bending resistance are implemented preferably with equal length, however, it is also possible to bring
35 variation in it provided the zones of one type having an equal length and those of the other type having a different length but equal to each other. The differences may not be too high.

It is noted that it is known per se that tape material bends more conveniently at perforations than at its absence.

Now, the invention will be elucidated with reference to the drawings.

5 Fig. 1 shows an enlarged cross-section through a known draught strip.

Fig. 2 is a cross-section corresponding to Fig. 1 of a draught strip according to the invention.

Fig. 3 is a top view of the draught strip according to Fig. 2.

10 Fig. 4 is a top view and illustrates a number of variations of the subject according to the invention.

Fig. 5 shows in a perspective view the location of said type of draught strip in a window frame.

The draught strip shown in Fig. 1 consists of a flat tape 1 for
15 example from plastic material and being provided at 2 with an impression or slit 2 defining the crease line and dividing the strip in two legs allowed to be folded around the crease line into the V-shape as indicated at 3 with interrupted lines. At one side of the crease line 2 onto the strip 1 a self-adhesive layer 4 is provided being
20 covered with a layer 5 from paper or other suitable material.

In the draught strip according to the invention and shown in Fig. 2 the crease line 2 is composed of impressions or slits 6 and 7 respectively of different depths. The slits and impressions 6 are deeper than the impressions or slits 7. As it appears from Fig. 3
25 they follow each other in an uninterrupted series. Such a crease line can be manufactured continuously in a simple way by means of a rotary cutting member or a heated rotary pressing member implemented such that it is adapted to produce the sequence of zones of different bending resistance.

30 Fig. 4 shows similarly as Fig. 3 a strip 1 having a number of modifications of the zones of variable bending resistance.

So at 8 and 9 impressions or slits of different width are shown the depth of which may remain equal. The widest zone 8 has the lowest bending resistance.

35 At 10 and 11 are shown alternately the shallow impressions or slits 11 and perforations 10 of circular cross-section. At 12 and 13 the perforations are constituted by oval apertures.

Fig. 5 shows a frame 14 for a window 15. Onto the horizontal leg of the rebate a draught strip is adhered with the layer 4, of which draught strip the leg is folded downwards. By closing the window said leg is pushed downwards. Against the post, similarly such a draught strip is located being urged in sealing relationship by closing the window.

Said closing is simplified remarkably now with the draught strip according to the invention and the closing force is reduced to a value being substantially half of the force necessary with the known draught strip of this type without impairing the sealing properties of the draught strip and without complicating the manufacturing or making the draught strip more expensive.

CLAIMS.

1. Draught strip comprising a tape(1) allowed to be coiled and provided in parallel relationship to its longitudinal axis with a crease line in form of a slit(2) or impression in the tape material, 5 said tape(1) being provided at one side of the crease line with a self-adhesive layer(4) on which a removable covering layer(5) is provided, characterized in that the slit or impression(2) defining the crease line consists of an uninterrupted series of subsequent zones(6,7; 8,9; 10,11; 12,13) of variable bending resistance.
- 10 2. Draught strip according to claim 1, characterized in that the crease line comprises a sequence of deep and less deep slits or impressions(6,7).
3. Draught strip according to claim 1 or 2, characterized in that the crease line is composed of a sequence of narrow and wider 15 slits or impressions(8,9).
4. Draught strip according to claim 1, 2 or 3, characterized in that, the subsequent slits or impressions(6,7; 8,9) have a reduced length of less than 2 cm.
5. Draught strip according to claim 1, characterized in that the 20 length of the subsequent slits or impressions(10,11; 12,13) is less than 5 mm.
6. Draught strip according to claim 5, characterized in that the deeper slits form perforations(10,12).

fig-1

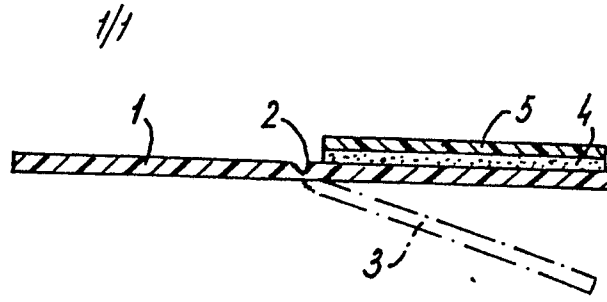


fig-2

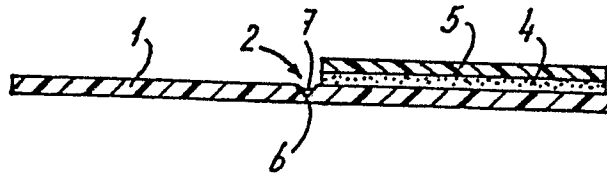


fig-3

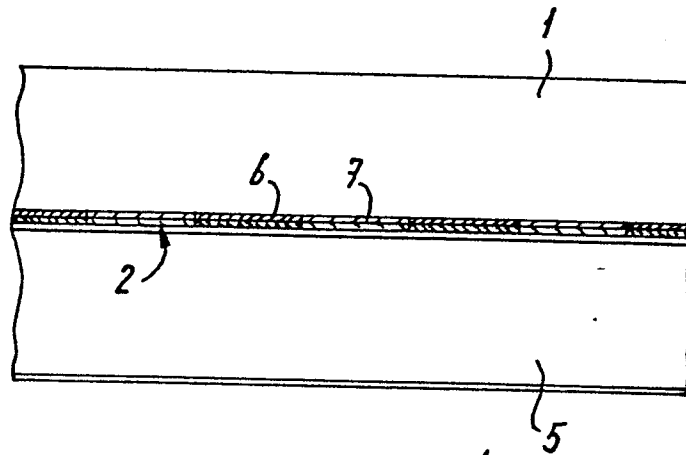


fig-4

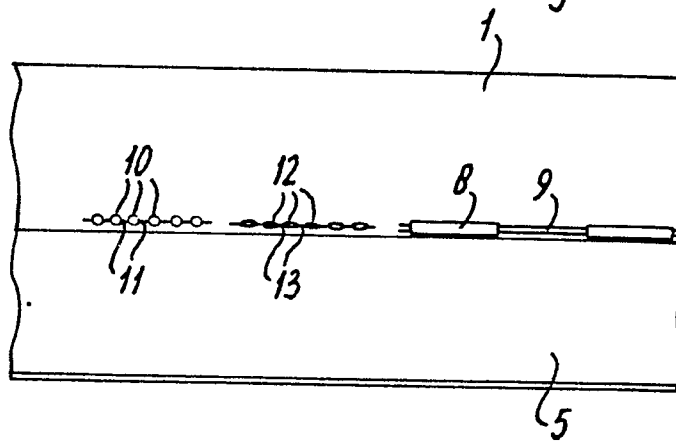
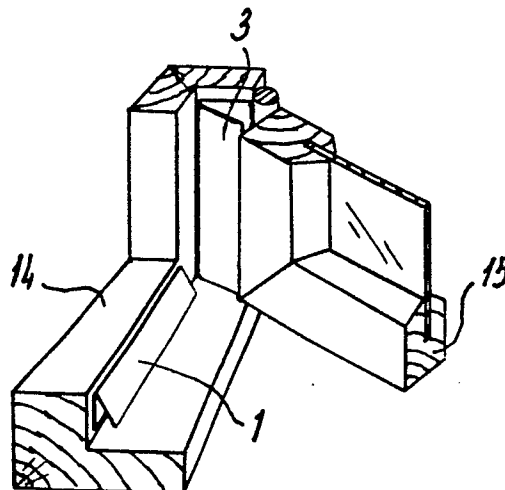


fig-5





European Patent
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EUROPEAN SEARCH REPORT

0102103

Application number

EP 83 20 1086

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Y	NL-A-6 409 593 (LANDA) * Page 5, lines 22-37; page 6, lines 1-17; figures 8,9 *	1-3,6	E 06 B 7/23
Y	US-A-3 581 884 (CALDWELL) * Claim 1; figures 1,2 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			E 06 B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-11-1983	Examiner VIJVERMAN W.C.
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	