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(54) **TOBACCO POUCH**

TABAKBEUTEL

BLAGUE À TABAC

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(73) Proprietor: **JT International SA**

1202 Geneva (CH)

(72) Inventors:

• **GODDEN, Alan**
Belfast BT4 2PA (GB)

• **LOCKHART, Karen**

Belfast BT5 6EJ (GB)

(74) Representative: **Gill Jennings & Every LLP**

The Broadgate Tower

20 Primrose Street

London EC2A 2ES (GB)

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Description

[0001] The present invention relates to a tobacco pouch which can be used to store tobacco for long periods of time.

[0002] Tobacco for roll-your-own or make-your-own smoking items is typically stored in a sealed pouch made from a metallised or non-metallised material. An example of such a pouch comprises a closure strip that seals the tobacco content for transport and which can be broken by a user to access the contents when necessary.

[0003] One problem associated with using sealed pouches (particularly pouches made from a metallised material) to store tobacco is that when the pouches of tobacco are stored at higher temperatures, for example in warm climates, the tobacco tends to generate a bad odour over extended periods of time (e.g., over a few months). Therefore, when a consumer opens a pouch which has been stored under such conditions, the bad odour reveals itself and this results in an unpleasant smoking experience.

[0004] Therefore, there is a need to provide a pouch (particularly a pouch made from a metallised material) for storing tobacco such that, even if it is stored at higher temperatures, the tobacco does not develop a bad odour. Of course, it is also desirable for the production of such a modified pouch to be simple, reliable and cost-effective.

[0005] US2005/079308, EP2000411 and US2009/226573 all disclose pouches.

[0006] A first aspect of the invention provides a method of producing a pouch containing tobacco, wherein the method comprises the steps of: providing a pouch comprising a pocket having a mouth for providing access to the interior of the pocket and having a closure strip extending along the mouth; filling the pocket with tobacco via the mouth; and sealing the closure strip such that at least one channel is retained to allow for fluid communication between the interior and exterior of the pocket. Preferably, the closure strip is not resealable.

[0007] A second aspect of the invention provides pouch for containing tobacco, obtainable by the above-mentioned method.

[0008] A third aspect of the invention provides a heater bar for use in the method according to the first aspect.

Description of the Drawings

[0009]

Figure 1 illustrates a pouch according to the prior art wherein the closure strip is completely sealed all the way across its opening such that fluid cannot exchange between the interior and exterior of the pouch.

Figure 2 illustrates a pouch according to the invention comprising a channel in the closure strip which allows for fluid communication between the interior and exterior of the pouch.

Figure 3 illustrates a pouch according to the invention comprising two channels in the closure strip.

Figure 4 illustrates a cross-section of a pouch according to the invention.

Figure 5 illustrates a modified heater bar which is used in the method according to the invention to seal the pouches.

Figures 6 to 11 illustrate several comparisons between the pouch according to the invention and a known tobacco pouch.

Detailed Description of the Invention

[0010] Figure 1 shows a known tobacco metallised pouch 1 with a seal 4 that extends across the mouth 3. The pouch 1 has a flap 6 that a user can fold over the mouth 3. It is believed that in a completely sealed pouch with no channels, such as the pouch 1 shown in Figure 1, oxygen content decreases and carbon dioxide content increases on storage, which in turn gives rise to the tobacco generating a bad odour. The present inventors have found that this is attributed to the fact that tobacco pouches are typically made from material having low gas permeability. The present inventors have found that this effect is increased in warmer climates (i.e. above 27 °C) where the pouch is exposed to higher temperatures for extended periods. Therefore, the present inventors have found that by controlling the oxygen and carbon dioxide content within the pouch, the tobacco contained therein remains fresher for longer such that it can be stored over extended periods of time.

[0011] Figures 2 to 4 depict a pouch 1 for containing tobacco, having a closure strip 4 across the mouth 3 of the pouch wherein the mouth 3 is used to provide access to the pocket 2 where the tobacco is contained. The closure strip 4 is sealed such that a channel 5 is retained. The channel 5 allows for fluid communication between the interior and exterior of the pocket 2 which contains the tobacco. In Figure 3, an alternative embodiment of the present invention is depicted wherein the closure strip 4 comprises two channels 5.

[0012] In Figures 2 and 3, the channels 5 are shown to be positioned towards one end of the closure strip 4. However, the channels 5 can be positioned anywhere along the closure strip 4. Preferably, the closure strip 4 comprises at least one channel 5, although the closure strip 4 may comprise at least two channels 5 or at least three or five channels 5. Preferably, where the closure strip 4 contains only one channel 5, the channel 5 is positioned towards one end of the closure strip 4.

[0013] The channel 5 can be from 1.0 % to 12.5 % of the length of the closure strip 4, preferably from 3.0 % to 9.0 %, most preferably from 3.5 % to 7.0 %. When the closure strip 4 comprises at least two (or more) channels, the total channel opening is from 1.0 % to 12.5 % of the length of the closure strip 4, preferably from 3.0 % to 9.0 %, most preferably from 3.5 % to 7.0 %.

[0014] The channel 5 can be from 2 mm to 10 mm of

the closure strip 4. Preferably, where the closure strip 4 comprises only one channel 5, the channel is from 3 mm to 7 mm, and more preferably it is 5 mm. When the closure strip 4 comprises at least two (or more) channels, the total channel opening is from 3 mm to 7 mm, and preferably 5 mm.

[0015] Preferably, the length of the closure strip 4 is from 65 mm to 145 mm. Most preferably, the length of the closure strip is from 70 mm to 80 mm, from 110 mm to 120 mm or from 130 mm to 140 mm.

[0016] As shown in Figure 4, the pouch 1 may further comprise a flap 6 which extends from the mouth 3 which is capable of folding over the pocket 2. When the pouch 1 is closed, the flap 6 is turned over against the pocket 2 of the pouch 1 and may be detachably connected with an adhesive.

[0017] The pouch can be formed from a sheet or film of a thermoplastic material such as a polyolefin, e.g. polyethylene. However, the pouch is preferably made of a metallised material comprising oriented polypropylene (OPP), polyethylene terephthalate (PET), metallised polyethylene terephthalate (MPET), polyethylene (PE) or any combination thereof. Preferably, the pouch is made of a material comprising OPP, MPET and PE or PET, MPET and PE. The advantage associated with using a metallised material over a non-metallised material is that the tobacco is kept moist for longer periods of time.

[0018] The pouch material typically has an oxygen transmission rate (OTR) in the range of from 1 to 800 $\text{cm}^3/\text{m}^2/24\text{h}/1\text{atm}$, preferably from 1 to 400 $\text{cm}^3/\text{m}^2/24\text{h}/1\text{atm}$, most preferably from 1 to 200 $\text{cm}^3/\text{m}^2/24\text{h}/1\text{atm}$. OTR values can be calculated according to the standard method ASTM D3985. In addition, the pouch material typically has a water vapour transmission rate (WVTR) of from 0.1 to 4 $\text{g}/\text{m}^2/\text{day}$, preferably from 0.2 to 3.5 $\text{g}/\text{m}^2/\text{day}$. WVTR values can be calculated according to the standard method ASTM F1249.

[0019] The method according to the present invention can comprise forming the pouch from a sheet of material, wherein the material is as described above. The pouch is conventionally formed from a rectangular sheet of material which is folded over itself and welded together at the edges to form a pocket where the tobacco is to be kept. A portion of the rectangular sheet extending beyond the mouth of the pocket forms a flap capable of folding over the pocket. A strip of heat activatable glue is then placed along the mouth of the pocket thereby forming a strip capable of being closed.

[0020] Once the pouch has been formed from the sheet of material, the pocket of the pouch is filled with tobacco via the mouth. After filling of the pouch with tobacco, the closure strip is then sealed such that at least one channel is retained to allow for fluid communication between the interior and exterior of the pocket of the pouch; for example, to allow for the exchange of oxygen and carbon dioxide between the interior and exterior of the pocket of the pouch.

[0021] Preferably, the closure strip comprises heat ac-

tivatable glue such that when the closure strip is heated, the glue is activated thereby providing a seal. The closure strip comprising the heat activatable glue can be heated using a metal heater bar 8 as shown in Figure 5 which, when pressed against the closure strip, activates the glue. In a preferred embodiment, the closure strip is not resealable.

[0022] It can be seen from Figure 5 that the heater bar 8 comprises a recess 9 such that when pressed against the closure strip, a portion of the closure strip comprising the heat activatable glue is not heated. This portion which is not (or less) heated gives rise to the channel allowing for fluid communication between the interior and exterior of the pouch. For example, if a channel of 5 mm of the closure strip is required, the recess will be 5 mm in width. In an alternative embodiment (not depicted), the heater bar may comprise more than one recess if more than one channel is required.

[0023] In an alternative and preferred embodiment, instead of having the recess on the heater bar, a recess is located along the closure strip which may comprise the heat activatable glue. In this alternative embodiment, the term "recess" is to be understood as a portion of the closure strip deprived from heat activatable glue. Thus in this embodiment, instead of modifying the heater bar so as not to completely seal the pouch, the modification is made to the closure strip; i.e., where the heat activatable glue is deposited along the closure strip so that at least one air channel can be formed.

[0024] Thus, instead of modifying the machine used to close the pouches, it is possible to use non sealed pouches with a closure strip where the heat activatable glue is not deposited continuously along the closure strip so that at least one air channel can be formed, i.e., the channel is formed at the position where no adhesive is present along the closure.

[0025] Once the closure strip is sealed, it can be opened by a consumer by applying a force to either side of the pocket. However, when the seal has been broken, it cannot be resealed.

Examples

Tobacco Moisture Content

[0026] The moisture content of tobacco in a metallised pouch of the present invention (as depicted in Figure 2) having a channel of 5 mm in the closure strip (115 mm long) was analysed over a period of six months. In addition, and by way of comparison, the moisture content of tobacco in a completely sealed metallised pouch was analysed over the same period. Tobacco moisture content was measured at 22°C/60%RH and 27°C/47%RH using a Borgwaldt F21 instrument.

[0027] Figures 6 and 7 show that the moisture content of the tobacco in the sealed metallised pouch and the pouch according to the invention remains between the moisture tolerance levels for tobacco under both condi-

tions.

Oxygen Content

[0028] The oxygen content within a metallised pouch of the present invention (as depicted in Figure 2) containing tobacco and having a channel of 5 mm in the closure strip was analysed over a period of six months. In addition, and by way of comparison, the oxygen content within a completely sealed metallised pouch containing tobacco was analysed over the same period. The oxygen content was measured at 22°C/60%RH and 27°C/47%RH using a PBI Dansensor Checkpoint Handled Gas Analyser.

[0029] It can be seen, from Figures 8 and 9, that oxygen content decreases more rapidly at 27°C/47%RH than at 22°C/60%RH when the pouch is completely sealed. However, it can be seen that the oxygen content within a pouch according to the invention remains consistent over the six-month period.

Carbon Dioxide Content

[0030] The carbon dioxide content within a metallised pouch of the present invention (as depicted in Figure 2) containing tobacco and having a channel of 5 mm in the closure strip was analysed over a period of six months. In addition, and by way of comparison, the carbon dioxide content within a completely sealed metallised pouch containing tobacco was analysed over the same period. The carbon dioxide content was measured at 22°C/60%RH and 27°C/47%RH using a PBI Dansensor Checkpoint Handled Gas Analyser.

[0031] It can be seen from Figures 10 and 11 that the carbon dioxide content steadily increases over the six-month period. However, it can also be seen that the carbon dioxide content within a pouch according to the invention remains constant and low throughout the six-month period.

Summary of results

[0032] It has been found that in warmer conditions, tobacco stored for long periods of time within a pouch according to the invention does not exhibit a bad aroma in comparison to tobacco stored over the same period of time within a completely sealed pouch, where the tobacco generates an unacceptable "rotten fruit" aroma.

[0033] It is believed that the unacceptable aroma is a direct result of a lack of oxygen and generation of carbon dioxide within the pouch containing tobacco. As can be seen from Figures 8 to 11, the pouch of the invention maintains an ideal aerobic environment for the tobacco and therefore the unacceptable aroma does not arise. In contrast, in the completely sealed pouch, the oxygen content in the pouch decreases rapidly to zero and the carbon dioxide content increases steadily (these trends are enhanced at higher temperatures and lower humidity) re-

sulting in an anaerobic environment and therefore generation of the aforementioned unacceptable aroma.

5 **Claims**

1. A method of producing a pouch (1) containing tobacco, wherein the method comprises the steps of:

10 providing a pouch comprising a pocket (2) having a mouth (3) for providing access to the interior of the pocket and having a closure strip (4) extending along the mouth;
filling the pocket with tobacco via the mouth; and
15 sealing the closure strip such that at least one channel (5) is retained to allow for fluid communication between the interior and exterior of the pocket.

20 2. The method according to claim 1, wherein the method further comprises the preliminary step of forming the pouch (1) from a sheet of material.

25 3. The method according to claim 1 or 2, wherein the sealing is heat sealing.

4. The method according to any one of claims 1 to 3, wherein the closure strip (4), once opened, is not resealable.

30 5. A pouch (1) containing tobacco, obtainable by the method according to any one of claims 1 to 4.

35 6. The pouch (1) according to claim 5, wherein the pouch is made of material comprising oriented polypropylene (OPP), polyethylene terephthalate (PET), metallised polyethylene terephthalate (MPET), polyethylene (PE) or any combination thereof.

40 7. The pouch (1) according to claim 6, wherein the pouch is made of material comprising OPP, MPET and PE or PET, MPET and PE.

45 8. The pouch (1) according to any one of claims 5 to 7, wherein the closure strip (4) comprises a heat activatable glue.

9. The pouch (1) according to any one of claims 5 to 8, wherein the closure strip (4) comprises at least one or at least two channels (5) to allow for fluid communication between the interior and exterior of the pocket (2).

50 10. The pouch (1) according to any one of claims 5 to 9, wherein the length of the at least one channel (5) or two channels extends from 1.0 % to 12.5 % of the length of the closure strip (4), preferably from 3.0 % to 9.0 %, most preferably from 3.5 % to 7.0 %.

11. The pouch (1) according to any one of claims 5 to 9, wherein the channel(s) (5) is(are) from 2 mm to 10 mm of the closure strip, preferably from 3 mm to 7 mm, most preferably 5 mm.
12. The pouch (1) according to any one of claims 5 to 11, wherein the pouch material has an oxygen transmission rate (OTR) value comprised between 1 and 800 cm³/m²/24h/1atm, preferably between 1 and 400 cm³/m²/24h/1atm.
13. The pouch (1) according to any one of claims 5 to 11, wherein the pouch material has a water vapour transmission rate (WVTR) value comprised between 0.1 and 4 g/m²/day, preferably between 0.2 and 3.5 g/m²/day.
14. The pouch (1) according to any one of claims 5 to 13, further comprising a flap (6) extending from the mouth (3) capable of folding over the pocket (2) which, when the pouch is closed, is turned over against the pocket and is detachably connected.
15. The pouch (1) according to any one of claims 5 to 14, wherein the fluid comprises oxygen and/or carbon dioxide.

Patentansprüche

1. Verfahren zum Herstellen eines Beutels (1), der Tabak enthält, wobei das Verfahren die folgenden Schritte aufweist:
 - Bereitstellen eines Beutels, der eine Tasche (2) mit einer Öffnung (3) zum Gewähren von Zugang zum Inneren der Tasche hat und einen sich an der Öffnung entlang erstreckenden Verschlussstreifen (4) hat;
 - Füllen der Tasche durch die Öffnung mit Tabak und
 - Verschließen des Verschlussstreifens, so dass wenigstens ein Kanal (5) beibehalten wird, um die Fluidverbindung zwischen dem Inneren und dem Äußeren der Tasche zuzulassen.
2. Verfahren nach Anspruch 1, wobei das Verfahren ferner den vorläufigen Schritt des Bildens eines Beutels (1) aus einem flächigen Materialstück aufweist.
3. Verfahren nach Anspruch 1 oder 2, wobei das Verschließen Verschweißen ist.
4. Verfahren nach einem der Ansprüche 1 bis 3, wobei der Verschlussstreifen (4) nach dem Öffnen nicht wieder verschlossen werden kann.
5. Tabak enthaltender Beutel (1), der durch das Ver-

fahren nach einem der Ansprüche 1 bis 4 erhalten werden kann.

6. Beutel (1) nach Anspruch 5, wobei der Beutel aus Material hergestellt ist, das orientiertes Polypropylen (OPP), Polyethylenterephthalat (PET), metallisiertes Polyethylenterephthalat (MPET), Polyethylen (PE) oder jedwede Kombination aus diesen aufweist.
7. Beutel (1) nach Anspruch 6, wobei der Beutel aus Material hergestellt ist, das OPP, MPET und PE oder PET, MPET und PE aufweist.
8. Beutel (1) nach einem der Ansprüche 5 bis 7, wobei der Verschlussstreifen (4) einen wärmeaktivierbaren Klebstoff aufweist.
9. Beutel (1) nach einem der Ansprüche 5 bis 8, wobei der Verschlussstreifen (4) wenigstens einen oder wenigstens zwei Kanäle (5) zum Ermöglichen der Fluidverbindung zwischen dem Inneren und dem Äußeren der Tasche (2) aufweist.
10. Beutel (1) nach einem der Ansprüche 5 bis 9, wobei die Länge des bzw. der wenigstens einen Kanals (5) oder zwei Kanäle sich über von 1,0 % bis 12,5 % der Länge des Verschlussstreifens (4) erstreckt, vorzugsweise über von 3,0 % bis 9,0 %, höchst vorzugsweise über von 3,5 % bis 7,0 %.
11. Beutel (1) nach einem der Ansprüche 5 bis 9, wobei der Kanal bzw. die Kanäle (5) von 2 mm bis 10 mm des Verschlussstreifens ist bzw. sind, vorzugsweise von 3 mm bis 7 mm, höchst vorzugsweise 5 mm.
12. Beutel (1) nach einem der Ansprüche 5 bis 11, wobei das Beutelmaterialeinen Sauerstofftransportraten- (OTR) -wert hat, der zwischen 1 und 800 cm³/m²/24 Std. bei 1 atm, vorzugsweise zwischen 1 und 400 cm³/m²/24 Std. bei 1 atm, aufweist.
13. Beutel (1) nach einem der Ansprüche 5 bis 11, wobei das Beutelmaterialeinen Wasserdampfdurchlässigkeits- (WVTR) -wert hat, der zwischen 0,1 und 4 g/m²/Tag, vorzugsweise zwischen 0,2 und 3,5 g/m²/Tag aufweist.
14. Beutel (1) nach einem der Ansprüche 5 bis 13, der ferner eine sich von der Öffnung (3) erstreckende, über die Tasche (2) legbare Klappe (6) aufweist, die bei geschlossenem Beutel auf die Tasche umgeschlagen ist und abnehmbar angefügt ist.
15. Beutel (1) nach einem der Ansprüche 5 bis 14, wobei das Fluid Sauerstoff und/oder Kohlendioxid aufweist.

Revendications

1. Procédé de production d'une blague (1) contenant du tabac, dans lequel le procédé comprend les étapes consistant à :

fournir une blague comprenant une poche (2) présentant une ouverture (3) destinée à fournir un accès à l'intérieur de la poche et présentant une bande de fermeture (4) qui s'étend le long de l'ouverture ;

remplir la poche avec du tabac par l'intermédiaire de l'ouverture ; et

sceller la bande de fermeture de telle sorte qu'au moins un canal (5) est retenu pour permettre une communication de fluide(s) entre l'intérieur et l'extérieur de la poche.

5

tions 5 à 9, dans laquelle la longueur dudit au moins un canal (5) ou deux canaux s'étend sur 1,0 à 12,5 % de la longueur de la bande de fermeture (4), de préférence sur 3,0 à 9,0 %, de manière encore plus souhaitable sur 3,5 à 7,0 %.
2. Procédé selon la revendication 1, dans lequel le procédé comprend en outre l'étape préliminaire consistant à former la blague (1) à partir d'une feuille de matériau.

10
3. Procédé selon la revendication 1 ou 2, dans lequel le scellage est un scellage par la chaleur.

15
4. Procédé selon l'une quelconque des revendications 1 à 3, dans lequel la bande de fermeture (4), une fois ouverte, ne peut pas être à nouveau scellée.

20
5. Blague (1) contenant du tabac, pouvant être obtenue par le procédé selon l'une quelconque des revendications 1 à 4.

25
6. Blague (1) selon la revendication 5, dans laquelle la blague est constituée d'un matériau comprenant du polypropylène orienté (OPP), du téréphtalate de polyéthylène (PET), du téréphtalate de polyéthylène métallisé (MPET), du polyéthylène (PE) ou une quelconque combinaison de ceux-ci.

30
7. Blague (1) selon la revendication 6, dans laquelle la blague est constituée d'un matériau comprenant de l'OPP, du MPET et du PE ou du PET, du MPET et du PE.

35
8. Blague (1) selon l'une quelconque des revendications 5 à 7, dans laquelle la bande de fermeture (4) comprend une colle susceptible d'être activée par la chaleur.

40
9. Blague (1) selon l'une quelconque des revendications 5 à 8, dans laquelle la bande de fermeture (4) comprend au moins un ou au moins deux canaux (5) pour permettre une communication de fluide(s) entre l'intérieur et l'extérieur de la poche (2).

45
10. Blague (1) selon l'une quelconque des revendications 5 à 9, dans laquelle la longueur dudit au moins un canal (5) ou deux canaux s'étend sur 1,0 à 12,5 % de la longueur de la bande de fermeture (4), de préférence sur 3,0 à 9,0 %, de manière encore plus souhaitable sur 3,5 à 7,0 %.

50
11. Blague (1) selon l'une quelconque des revendications 5 à 9, dans laquelle le ou les canaux (5) sont de 2 à 10 mm par rapport à la bande de fermeture, de préférence 3 à 7 mm, de manière encore plus souhaitable 5 mm.

55
12. Blague (1) selon l'une quelconque des revendications 5 à 11, dans laquelle le matériau de blague a une valeur de taux (OTR) de transmission d'oxygène comprise entre 1 et 800 cm³/m²/24 h/1 atm, de préférence entre 1 et 400 cm³/m²/24 h/1 atm.
13. Blague (1) selon l'une quelconque des revendications 5 à 11, dans laquelle le matériau de blague a une valeur de taux (WVTR) de transmission de vapeur d'eau comprise entre 0,1 et 4 g/m²/jour, de préférence entre 0,2 et 3,5 g/m²/jour.
14. Blague (1) selon l'une quelconque des revendications 5 à 13, comprenant en outre un volet (6) qui s'étend depuis l'ouverture (3) apte à être replié sur la poche (2) qui, lorsque la blague est fermée, est retourné contre la poche et est relié de manière détachable.
15. Blague (1) selon l'une quelconque des revendications 5 à 14, dans laquelle le fluide comprend de l'oxygène et/ou du dioxyde de carbone.

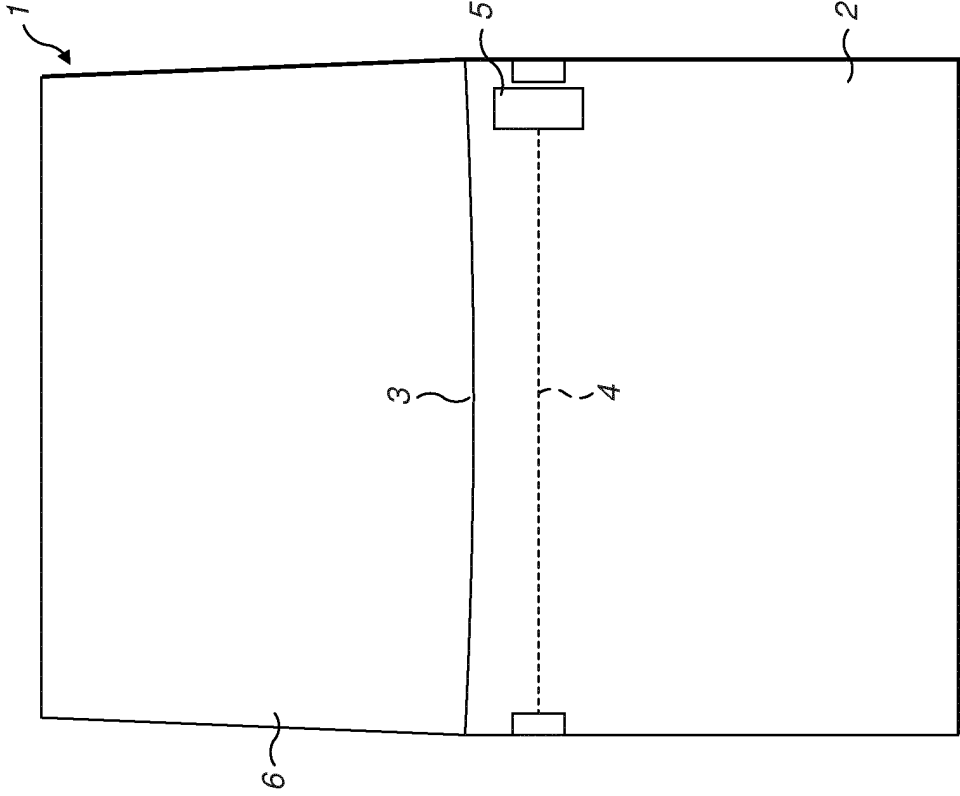


FIG. 2

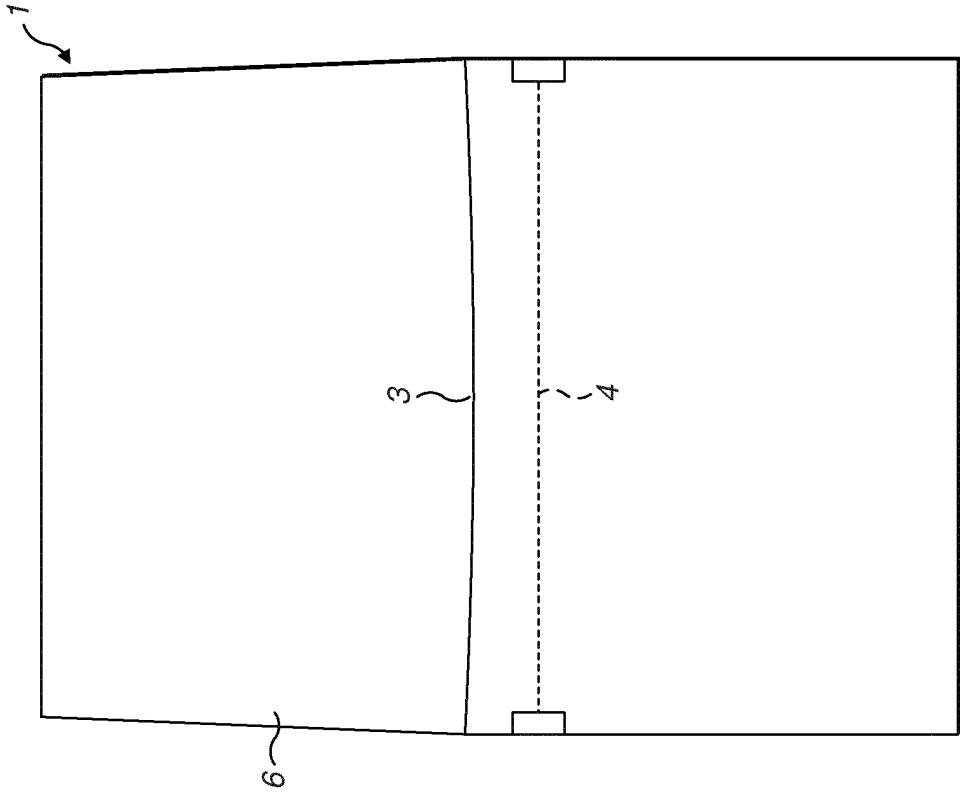


FIG. 1

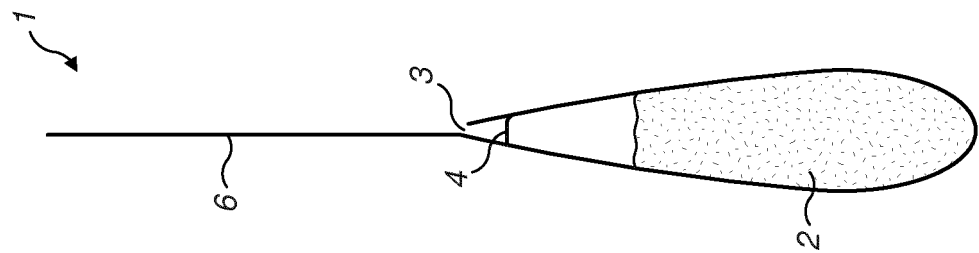


FIG. 4

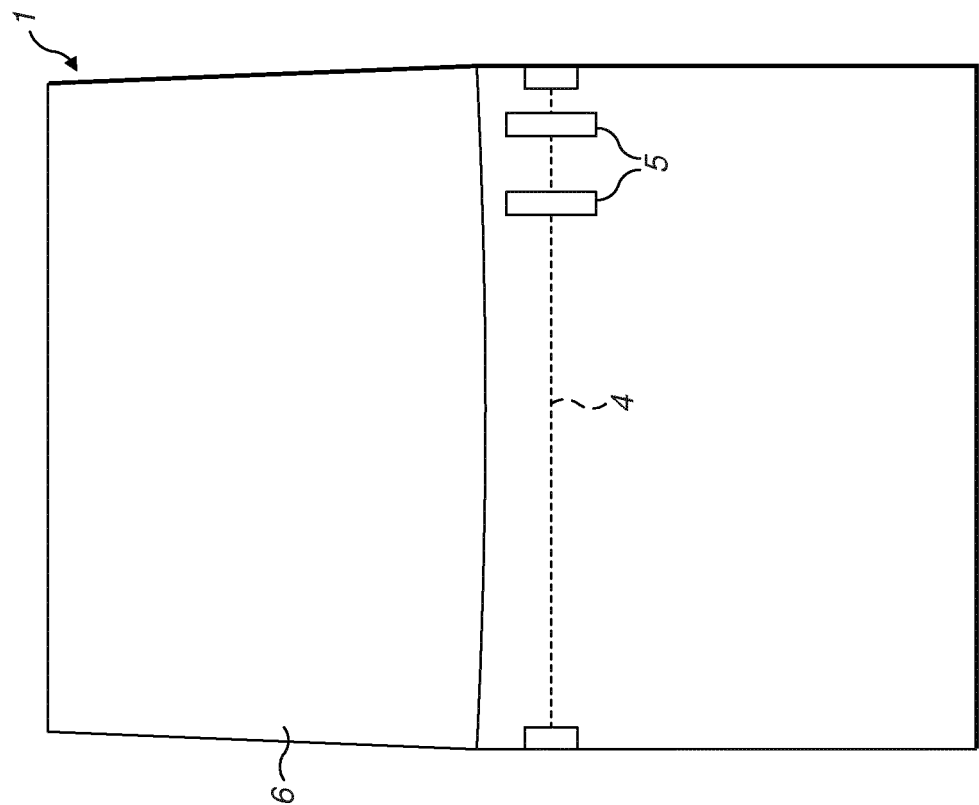


FIG. 3

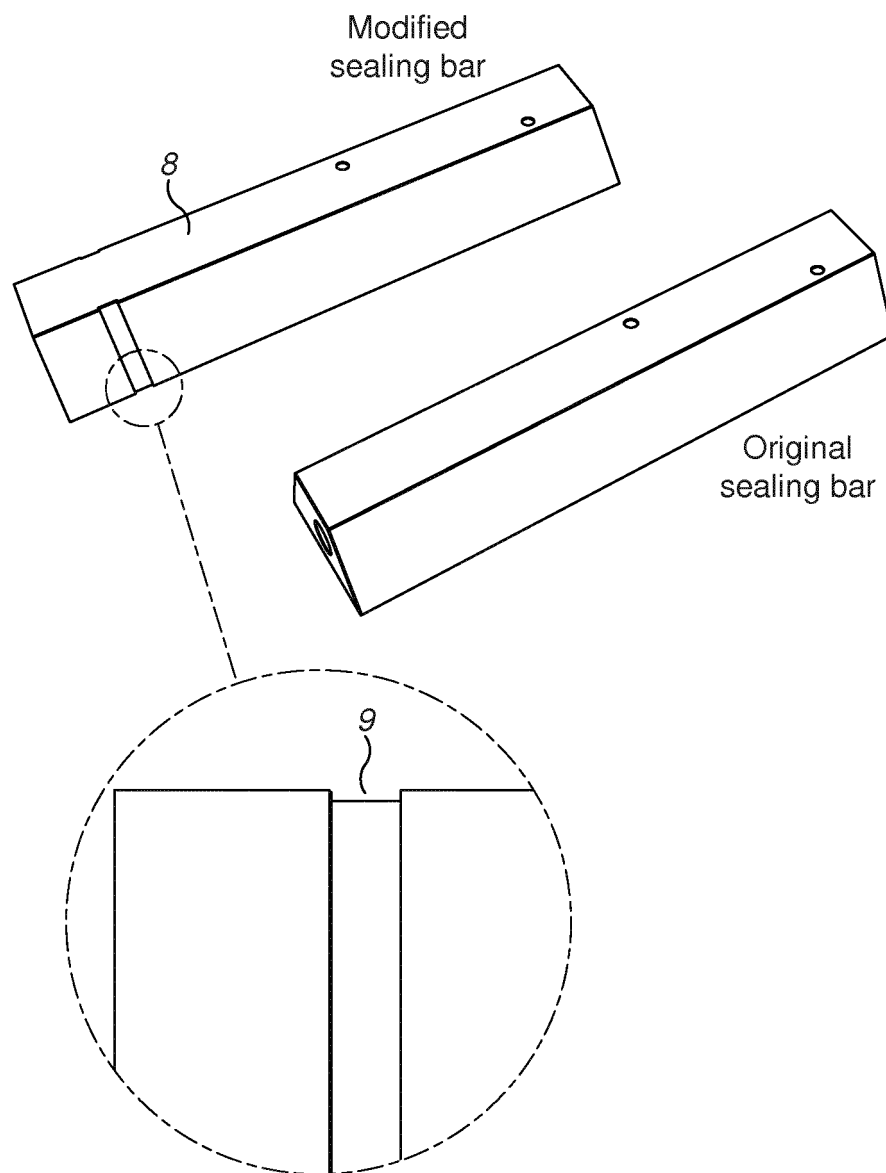


FIG. 5

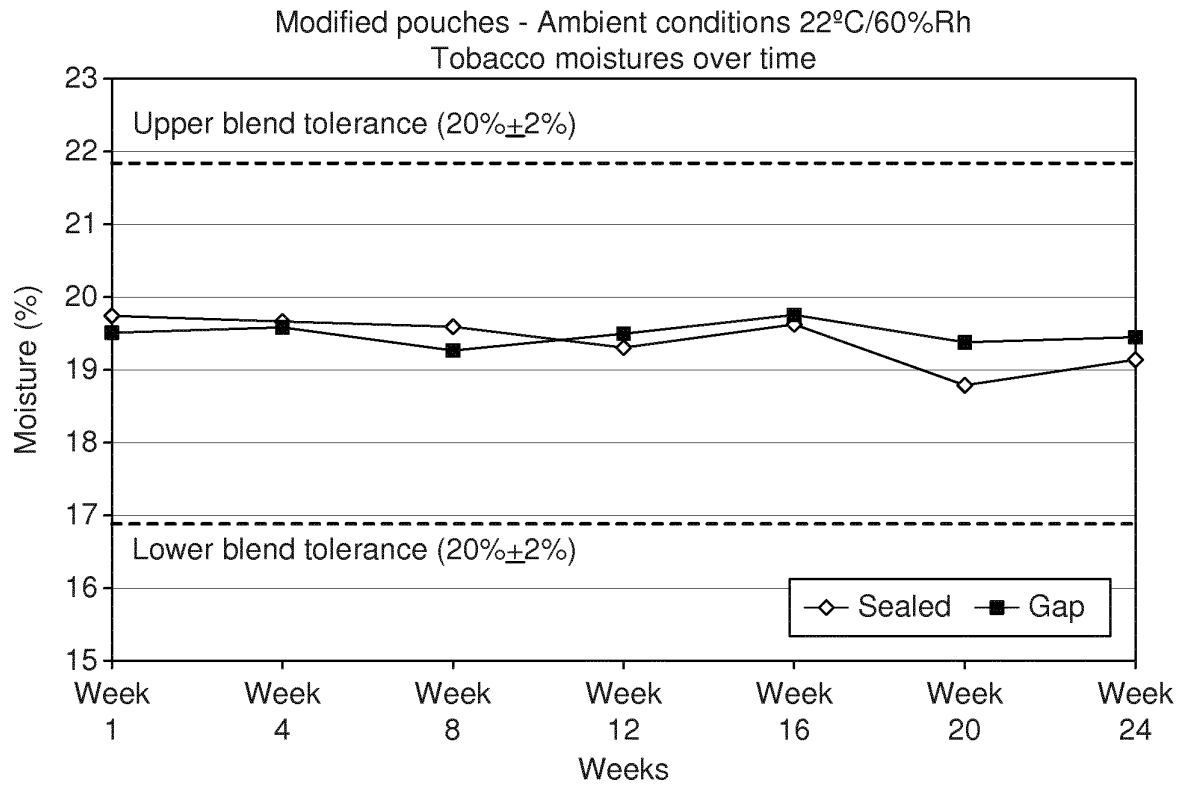


FIG. 6

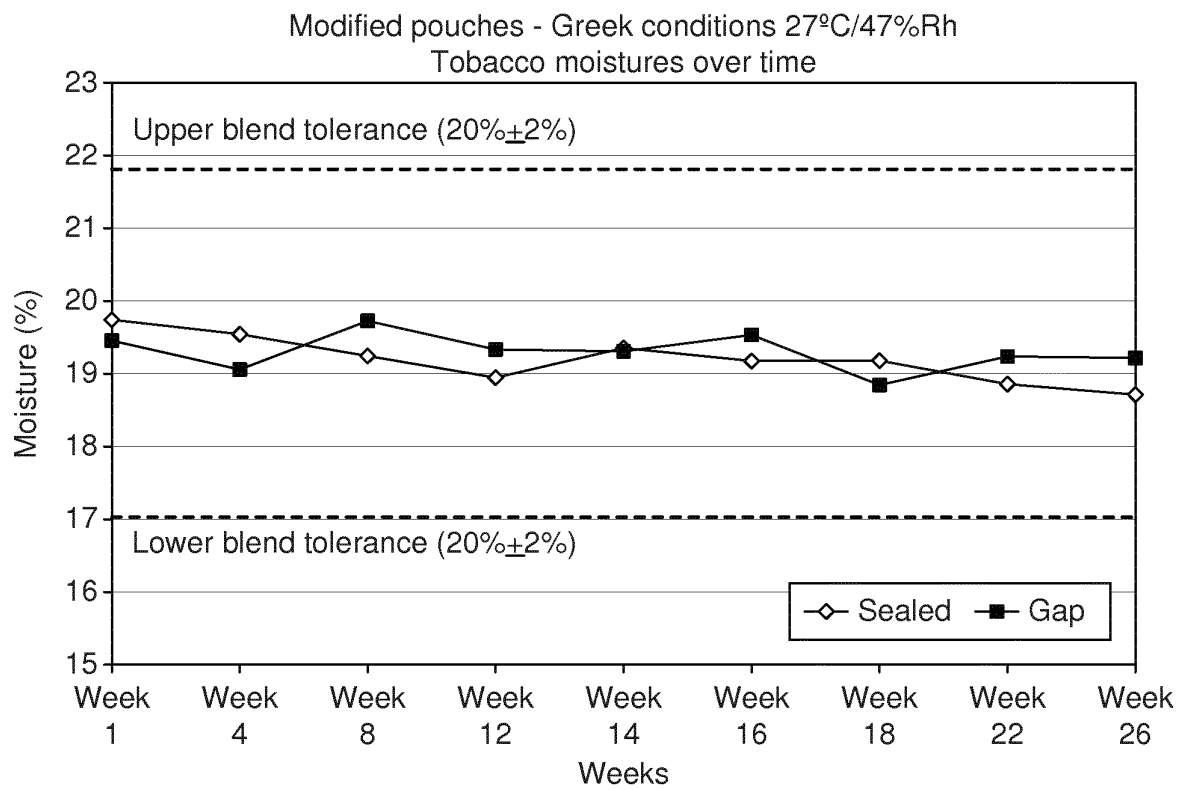


FIG. 7

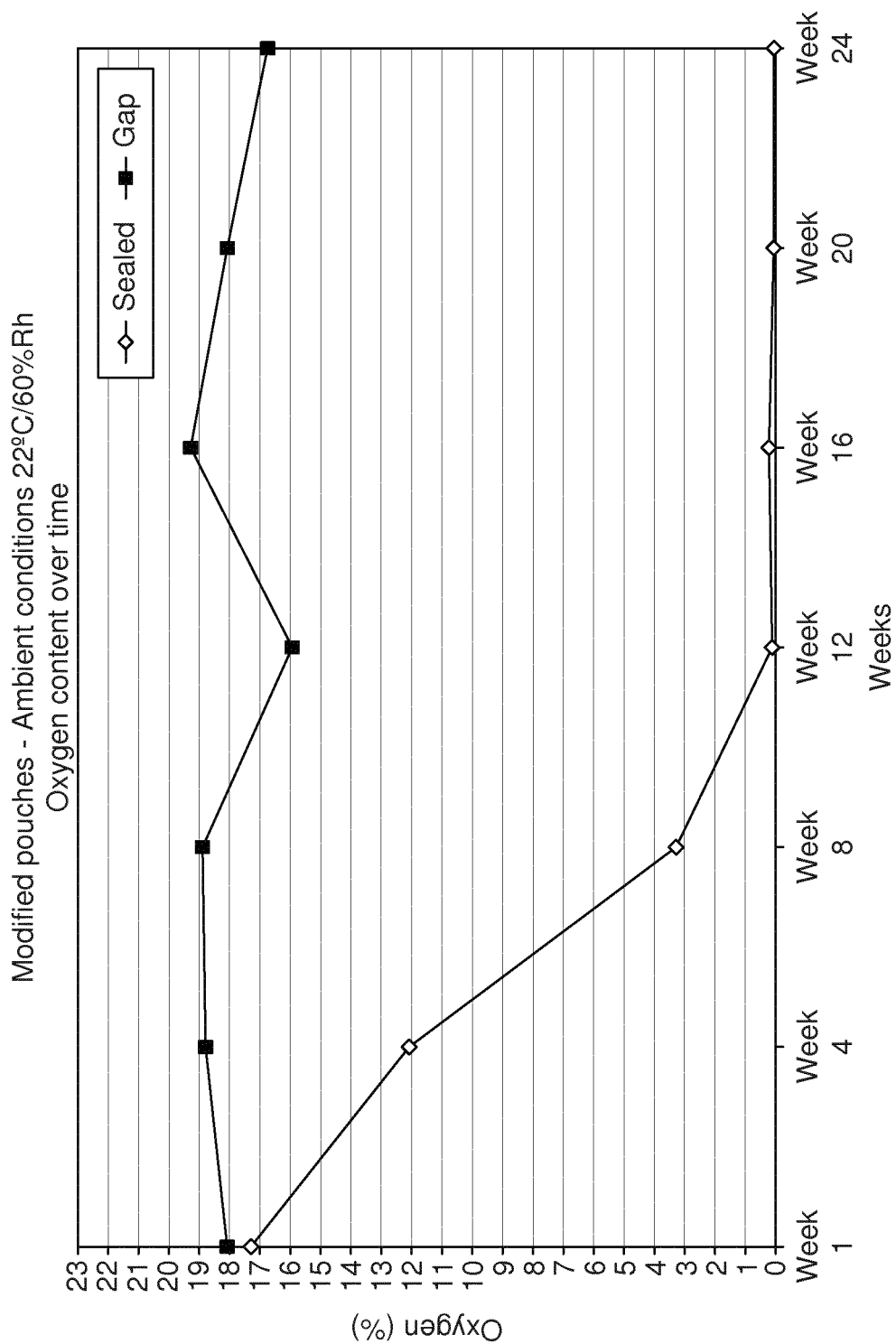


FIG. 8

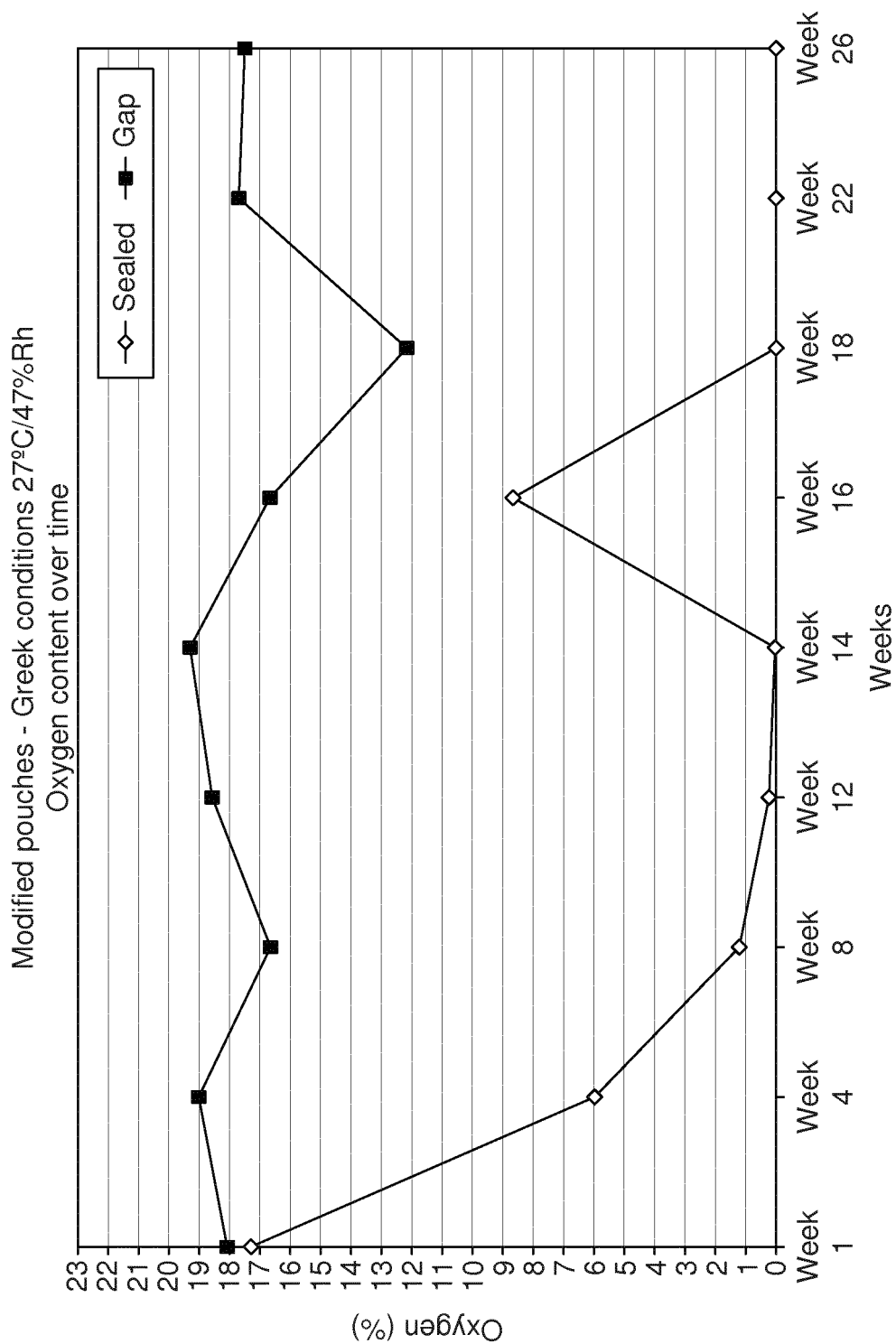


FIG. 9

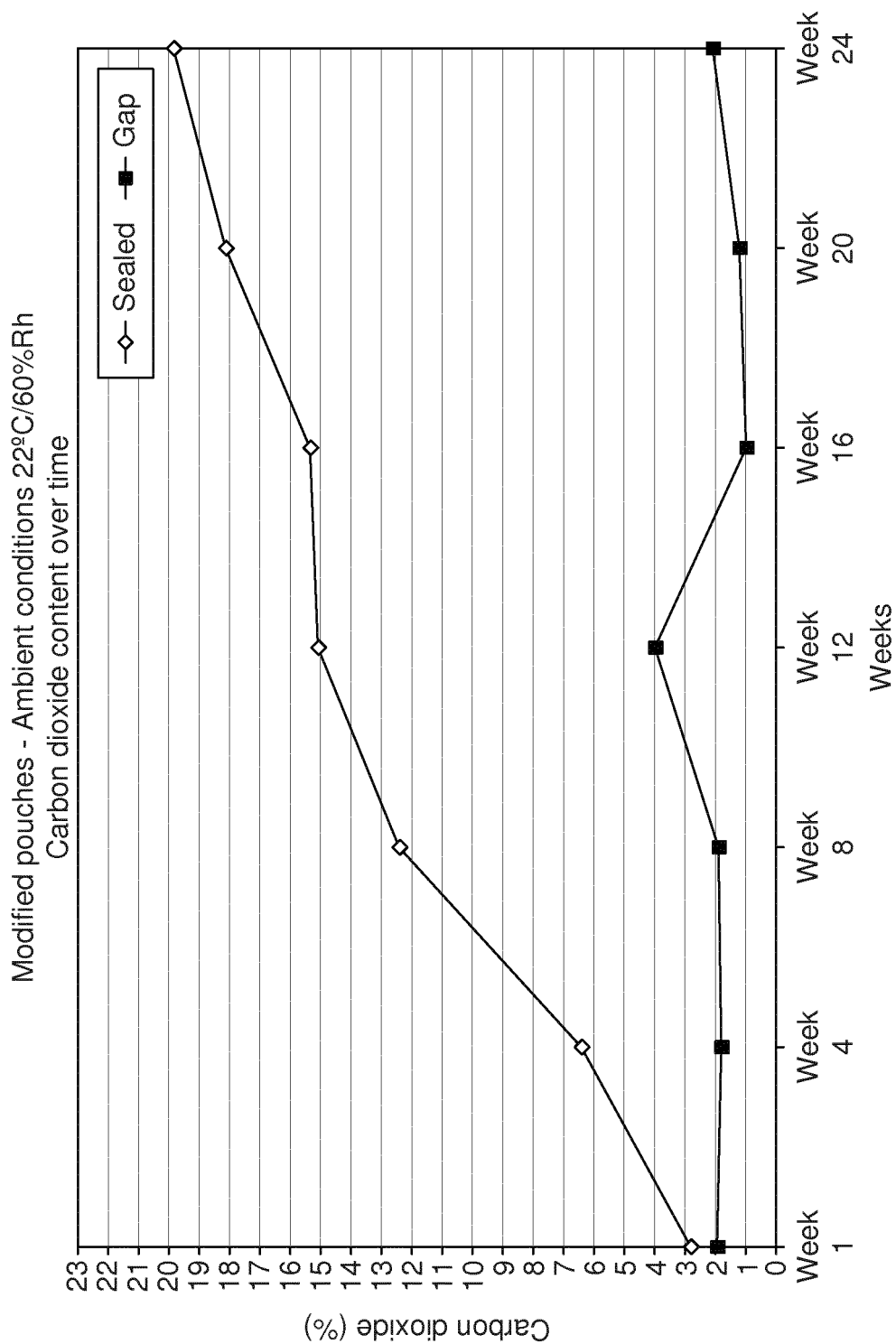


FIG. 10

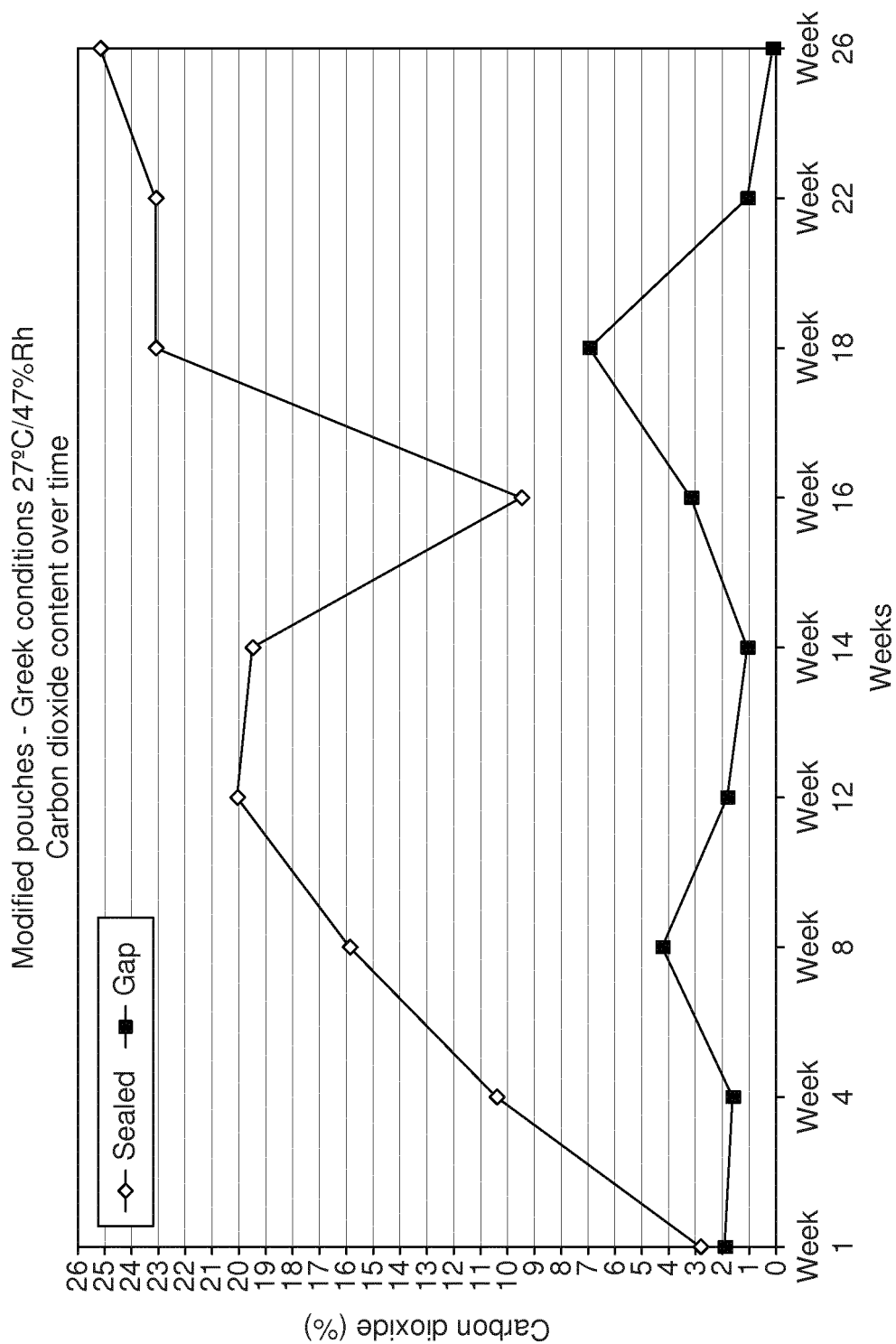


FIG. 11

REFERENCES CITED IN THE DESCRIPTION

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