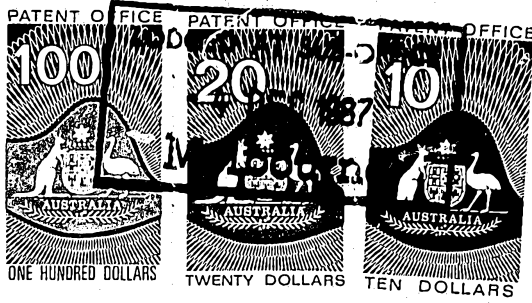


(CONVENTION. By one or more persons :



COMMONWEALTH

Patent:

CONVENTION APPLICATION FOR A PATENT

605523

FEE STAMP TO VALUE OF
\$ 130 ATTACHED
MAIL OFFICER: [Signature]

(1) Here insert (in full) Name or Names of Applicant or Applicants, followed by Address (es).

(1) AB TETRA PAK
We of Rabyholms, alle, Lund, Sweden

(2) Here insert Title of Invention.

hereby apply for the grant of a Patent for an invention entitled: (2)
STRIP TAPE FOR A FOOD PRODUCT PACKAGING CONTAINER

(3) Here insert number(s) of basic application(s)

which is described in the accompanying complete specification. This application is a Convention application and is based on the application numbered (3)
61-301111

(4) Here insert Name of basic Country or Countries, and basic date or dates

for a patent or similar protection made in (4) Japan
on 16th December 1986

APPLICATION ACCEPTED AND AMENDMENTS

ALLOWED 17-10-90

My
 Our
address for service is Messrs. Edwd. Waters & Sons, Patent Attorneys,
50 Queen Street, Melbourne, Victoria, Australia.

DATED this 3rd day of December 1987

(5) Signature (s) of Applicant (s) or Seal of Company and Signatures of its Officers as prescribed by its Articles of Association.

LODGED AT SUB-OFFICE
- 4 DEC 1987
Melbourne

AB TETRA PAK
BY [Signature]
Stephen K. Plymin
Registered Patent Attorney

To:

COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1969

DECLARATION IN SUPPORT OF A CONVENTION APPLICATION FOR A PATENT OR PATENT OF ADDITION

(1) Here insert (in full) Name of Company.

In support of the Convention Application made by(1) AB TETRA PAK

(hereinafter referred to as the applicant) for a Patent

(2) Here insert title of Invention.

for an invention entitled:(2) STRIP TAPE FOR A FOOD PRODUCT PACKAGING CONTAINER

(3) Here insert full Name and Address, of Company official authorized to make declaration.

I,(3) GOSTA SEVRELL of Rabyholms, alle, Lund, Sweden

do solemnly and sincerely declare as follows:

1. I am authorised by the applicant for the patent to make this declaration on its behalf.

2. The basic application as defined by Section 141 of the Act was made in(4) Japan

on the 16th day of December 1986, by

AB TETRA PAK

on the XXXXXXXX day of XXXXXXXX 19 XXXXXXXX

(4) Here insert basic Country or Countries followed by date or dates and basic Applicant or Applicants.

(5) Here insert (in full) Name and Address of Actual Inventor or Inventors.

3.(5) MOTOCHIKA KOBINATA, 84-16, Nagatsuka, Gotenba-shi, Shizuoka, Japan

is/are the actual inventor of the invention and the facts upon which the applicant is entitled to make the application are as follow:

The applicant is the assignee of the said actual inventor

4. The basic application referred to in paragraph 2 of this Declaration was the first application made in a Convention country in respect of the invention the subject of the application.

DECLARED at Lund, Sweden this 6th day of October 19 87

(6) Signature.

(6)

[Handwritten Signature]

(12) PATENT ABRIDGMENT (11) Document No. AU-B-82092 '87
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 605523

- (54) Title
STRIP TAPE FOR A FOOD PRODUCT PACKAGING CONTAINER
- International Patent Classification(s)
(51)⁴ **B32B 015/08 B32B 015/20 B32B 027/10 B35D 005/42**
- (21) Application No. : **82092/87** (22) Application Date : **04.12.87**
- (30) Priority Data
- (31) Number (32) Date (33) Country
61-301111 16.12.86 JP JAPAN
- (43) Publication Date : **16.06.88**
- (44) Publication Date of Accepted Application : **17.01.91**
- (71) Applicant(s)
AB TETRA PAK
- (72) Inventor(s)
MOTOCHIKA KOBINATA
- (74) Attorney or Agent
WATERMARK PATENT & TRADEMARK ATTORNEYS, Locked Bag 5, HAWTHORN VIC 3122
- (56) Prior Art Documents
US 4363841
AU 411731 6115/66 B32B
GB 951341

(57) Claim

1. A food product packaging container formed from a paper-based ply material blank having at least one overlapped seam, said seam being covered on an inwardly facing side by a strip tape adapted to render said packaging container gastight and comprising a plurality of layers which include at least one metal layer arranged in a lengthwise direction, having side edges which remain within said strip tape so as not to reach the respective side edges of the strip tape.

2. A food product packaging container as claimed in claim 1, wherein said strip tape comprises a metal layer or layers formed by metallic deposition.

3. A food product packaging container as claimed in claim 1, wherein said strip tape comprises a metal layer or layers formed by metal foil laminating.

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(10) 605523

-2-

4. A food product packaging container as claimed in any one of claims 1, 2 or 3 wherein said strip tape comprises a metal layer or layers of aluminium.

605523

Form 10

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952-69

COMPLETE SPECIFICATION

(ORIGINAL)

Class

Int. Class

Application Number:

Lodged:

Complete Specification Lodged:

Accepted:

Published:

Priority:

Related Art:

This document contains the amendments made under Section 49 and is correct for printing.

Name of Applicant: AB TETRA PAK

Address of Applicant: Rabyholms, alle, Lund, Sweden

Actual Inventor: MOTOCHIKA KOBINATA

Address for Service: EDWD. WATERS & SONS,
50 QUEEN STREET, MELBOURNE, AUSTRALIA, 3000.

Complete Specification for the invention entitled:

STRIP TAPE FOR A FOOD PRODUCT PACKAGING CONTAINER

The following statement is a full description of this invention, including the best method of performing it known to : US

STRIP TAPE FOR A FOOD PRODUCT PACKAGING CONTAINER

The present invention relates to a tape which is adapted to be attached to an inner side of a seam of a food product packaging container formed from a paper-based ply material blank so as to improve barrier features about the seam area.

It is known to provide a food product packaging container A, to be used for containing liquid food such as milk, juice or the like. The packaging container is intended to be airtight by forming a tube with a longitudinal seam B formed by welding and thereafter closing and sealing the top and bottom open ends. In such an airtight packaging container for a food product having a seam B (as shown in Figure 4) the lengthwise end surfaces of the ply material A' forming the container are exposed along the seam B. It is recognised that such a condition may not satisfy the requirements of the food sanitation laws which forbid the contents of the container from coming into direct contact with any substance except polyethylene.

It is known in the prior art to provide a strip tape S for attaching to an inner side of the seam B as shown in Figure 4 (for example, disclosed in Japanese Patent Publication No. 56-14544).

It is an object of the prior art invention to protect a strip tape from deforming by heat. In the prior art, however, there is no disclosure of any barrier protection against water, other gases, and more seriously, oxygen and light. Accordingly, in whatever manner the strip tape S is attached to the inner side of the seam B, oxygen and other substances may enter the airtight container A from its seam B. For example, although the food product packaging container A is airtight, oxygen may enter the container A through a paper-made base layer 1, as represented by the arrow in Figure 4, and moves inwardly across the strip tape S to come into direct contact with the food product contained in the container A. Because gas

permeability, including oxygen, is greater in the strip tape S than in the ply material A', the gas entered from the aforesaid seam B will always pass through the strip tape S to finally come into direct contact with the content of the container A. Consequently, when impurities enter the airtight container A, the food product in the container A will be deteriorated.

It is a first object of the present invention to eliminate this disadvantage and additionally, to comply with conditions of the aforesaid food sanitation law.

In accordance with the present invention therefore, there is provided a food product packaging container having at least one overlapped seam, said seam being covered on an inwardly facing side by a strip tape adapted to render said packaging gastight and comprising a plurality of layers which include at least one metal layer arranged in a lengthwise direction having side edges which remain within said strip tape so as not to reach the respective side edges of the strip tape.

Consequently, the strip tape S contains at least a metal layer which provides for a barrier protection against water, oxygen, other gases, or light, and additionally, which will not be exposed on either the front or back sides of the strip tape S nor at the right and left ends of the same arranged in a length direction.

Brief description of the drawings:

Figures 1 to 6 of the accompanying drawings illustrate one preferred embodiment of the present invention:

Figure 1 being an enlarged plan view showing one end portion of a strip manufactured according to the present invention;

Figure 2 being an enlarged cross-sectional view of a strip tape taken on the line 11-11 of Figure 1, showing on half of the strip;



Figure 3 being a perspective view showing the use of the strip in a package assembly;

Figure 4 being an enlarged cross-sectional view of a joint using the strip according to preceding figures.

5 Figure 5 being a plan view showing a wide strip capable of being divided into a plurality of strip tapes according to Figure 1; and

Figure 6 being an enlarged longitudinal cross-sectional view of the strip shown in Figure 1.

10 The preferred embodiment of the present invention illustrated in the drawings will now be described in conjunction therewith.

The strip tape S is a laminated strip having a plurality of layers as shown in Figure 1. At least one of the layers 2 is made of metal, such as aluminium as a preference, whereas the other layers 3 are made of plastics, preferably polyethylene. The metal layer 2 (at least one included in the layers of the strip tape S) is provided to establish a barrier against the passage of water, oxygen and other gases, and light.

15 The metal layer 2 should be placed within the strip tape so as to be prevented from being on an external side of the layers. Accordingly, both the front and back sides of the metal layer 2 are covered with respective layers 3. Therefore, the metal layer or layers 2 will not be exposed on either the front or the back sides of the strip tape S.

20 The metal layer 2 should be placed within the strip tape so as to be prevented from being on an external side of the layers. Accordingly, both the front and back sides of the metal layer 2 are covered with respective layers 3. Therefore, the metal layer or layers 2 will not be exposed on either the front or the back sides of the strip tape S.

25 However, the end edges of the metal layer or layers 2 will be exposed at the right and left sides S', S' of the strip tape S arranged in a lengthwise direction, as shown in Figure 6, when the metal layer 2 is only placed between the other layers of the strip tape S. When the strip tape S is attached to the inner side of a seam B of a food product packaging container A formed from a paper-based ply material blank A; as shown in Figures 3 and 4, the side edges of said

30 metal layer or layers 2 will come into direct contact with the food product contained in the container A, thus not

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satisfying a condition of the food sanitation law which forbids the content to come into contact with any substance except polyethylene. The side edges 2' of the metal layer 2 should then be arranged to remain inside so as not to reach the right and left ends S', S' of the strip tape S arranged in a lengthwise direction. In this manner, the metal layer 2 will not be exposed at the right and left ends S', S' of the strip S.

The metal layer or layers 2, being formed as at least a layer to improve barrier protection against water, oxygen, other gases, or light, will be exposed externally neither on the front and back sides of the strip tape S nor at the right and left side edges S', S' of the strip tape S arranged in a lengthwise direction. While this strip tape S is attached to the inner side of the seam B of the food product packaging container A formed from a paper-based ply material blank A' as shown in Figures 3 and 4, the metal layer 2, formed as a layer to improve the barrier protection, will not come into direct contact with the food product contained in the container A.

Although it will be understood to provide a single metal layer 2 contained within the strip tape S, the embodied strip tape illustrated provides three metal layers, each being disposed on every non-metal layer. The metal layers can be increased or reduced as desired. It will be understood to form the metal layer 2 by metallic deposition or foil laminating. To form the metal layer 2 by metallic deposition: each layer may be metallised entirely before removing unnecessary portions with solvent; a necessary portion of the layer may be metallised; or a process of etching may be employed.

This strip tape S may be manufactured one by one. Otherwise, a wide strip including a plurality of strip tapes S communicated in right and left directions can be formed as shown in Figure 5 so as to be separated afterward into pieces by cutting off on the cutting lines C arranged along

the communicating zones, which will improve greatly the manufacturing efficiency.

When the strip tape S in accordance with the present invention is attached to the inner side of the seam B of a food product packaging container formed from a paper-based ply material blank, the advantage is such that the life of the food product preserved in the container will be extended. Additionally, the metal layer 2, which is contained within the strip tape S according to the present invention improves its barrier protection against water, oxygen, other gases, and light, and is not exposed on either the front and back sides of the strip tape S nor at the right and left sides S', S' of the strip tape S arranged in a lengthwise direction, whereby the improved strip tape S will satisfy conditions of the food sanitation law which forbids the contents from coming into contact with any substance except polyethylene and will provide no disadvantage as a sealing tape for food product packaging.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A food product packaging container formed from a paper-based ply material blank having at least one overlapped seam, said seam being covered on an inwardly facing side by a strip tape adapted to render said packaging container gastight and comprising a plurality of layers which include at least one metal layer arranged in a lengthwise direction, having side edges which remain within said strip tape so as not to reach the respective side edges of the strip tape.
2. A food product packaging container as claimed in claim 1, wherein said strip tape comprises a metal layer or layers formed by metallic deposition.
3. A food product packaging container as claimed in claim 1, wherein said strip tape comprises a metal layer or layers formed by metal foil laminating.
4. A food product packaging container as claimed in any one of claims 1, 2 or 3 wherein said strip tape comprises a metal layer or layers of aluminium.

DATED this 20th day of August, 1990.

AB TETRA PAK

WATERMARK PATENT &
TRADE MARK ATTORNEYS
THE ATRIUM
2ND FLOOR, 290 BURWOOD RD
HAWTHORN VIC. 3122.



FIG.1

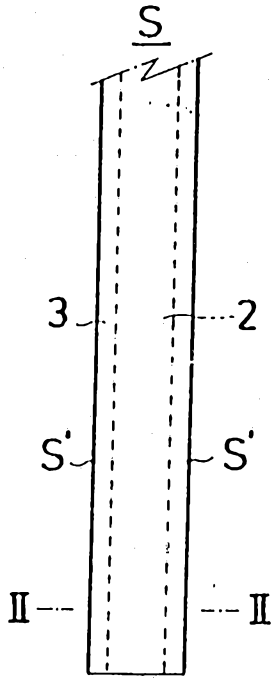


FIG.2

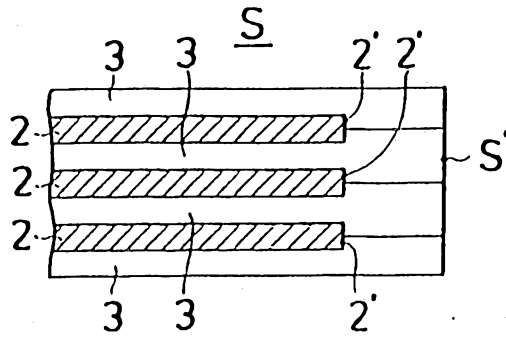


FIG.3

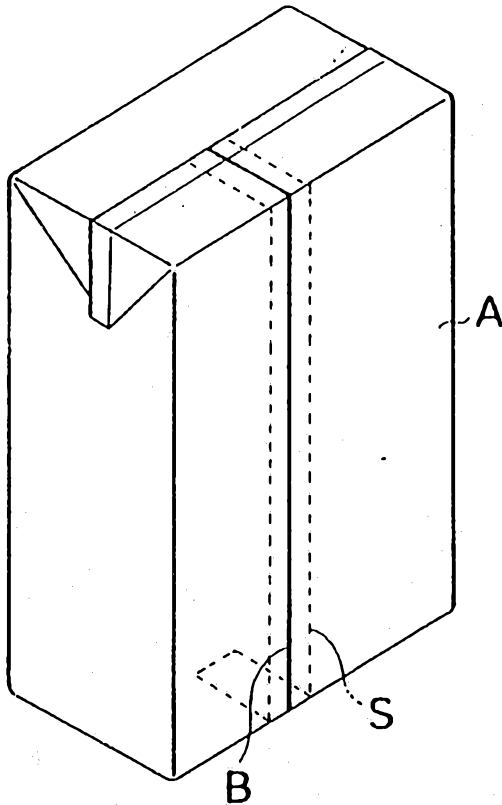


FIG.4

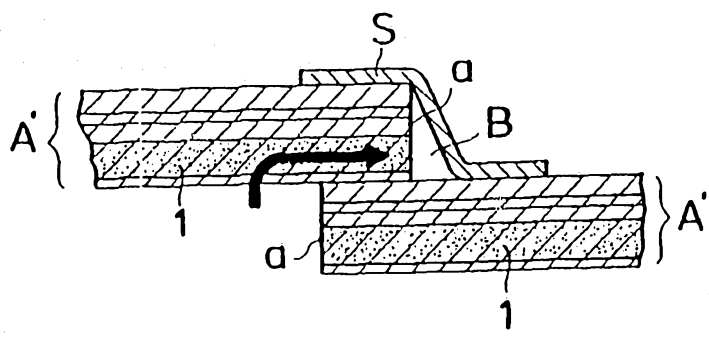


FIG.5

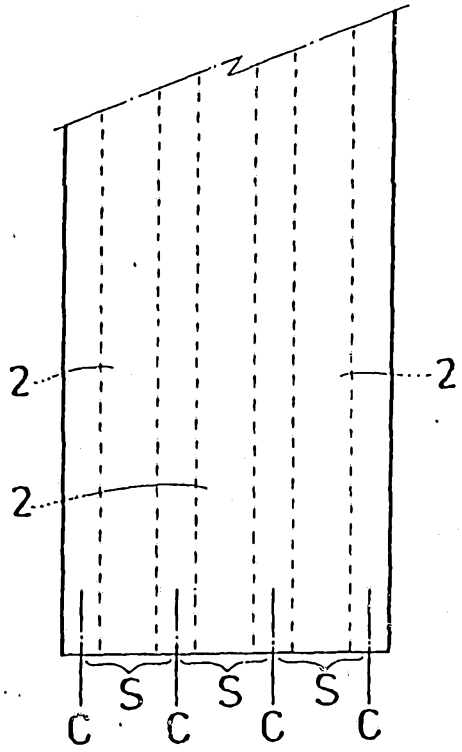
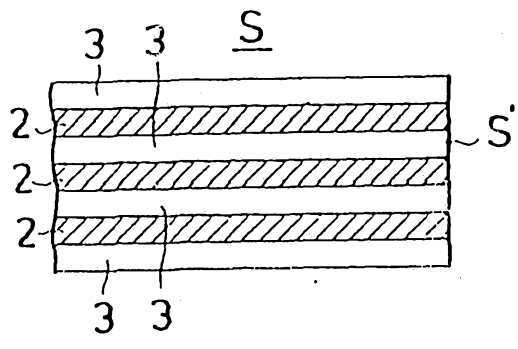


FIG.6



- 1. BASE LAYER
- 2. METAL LAYER
- A. CONTAINER
- A' PLY MATERIAL
- B. SEAM
- S. STRIP TAPE