

(CONVENTION. By one or more persons and/or a Company.)

Form 4

603300
COMMONWEALTH OF AUSTRALIA

Patents Act 1952-1969

CONVENTION APPLICATION FOR A PATENT

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

~~xx~~ (1) KUREHA CHEMICAL INDUSTRY COMPANY, LIMITED
We
of 9-11, 1-Chome, Nihonbashi, Horidome-cho, Chuo-ku, Tokyo,
Japan

(2) Here
insert Title
of Invention.

hereby apply for the grant of a Patent for an invention entitled: (2)
DISPENSING CARTON FOR A ROLL FILM

(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)

186461/88

(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 25th July 1988

DECLARATION ACCEPTED AND AMENDMENTS

RECEIVED 30-7-90

~~My~~ Watermark Patent & Trademark Attorneys
Our address for service is Messrs Edward Waters & Sons Patent Attorneys

50 Queen Street, Melbourne, Victoria, Australia.

DATED this 20th day of July 1989

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

(5) KUREHA CHEMICAL INDUSTRY COMPANY, LIMITED

by

M 010899 210789 L. J. Dyson

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⁾.....
KUREHA CHEMICAL INDUSTRY COMPANY, LIMITED(2) Here
insert title
of Invention.

(hereinafter referred to as the applicant) for a Patent

for an invention entitled:⁽²⁾.....
DISPENSING CARTON FOR A ROLL FILM(3) Here
insert full Name
and Address,
of Company
official
authorized
to make
declaration.I, ⁽³⁾ Tadashi Araki, a director of Kureha Chemical Industry Company,
of Limited, of c/o Kureha Chemical Industry Company, Limited,
9-11, 1-Chome, Nihonbashi, Horidome-cho, Chuo-ku, Tokyo, Japan

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⁾ Japanon the 25 day of July 1988, by KUREHA
CHEMICAL INDUSTRY COMPANY, LIMITEDon ~~the~~ day of ~~xxxxxx~~ by ~~xxxxxx~~(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⁾ TAKASHI TAGUCHI, of 733-4, Nisshin-Cho, 3-Chome, Ohomiya-Shi,
Saitama, JapanYORIO TAKEMURA, of No. 205, 6-3, Shimomeguro, 1-Chome, Meguro-ku,
Tokyo, Japanis/are the actual inventors 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 inventors.....

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 Chuo-ku, Tokyo
this 5 day of July 1989

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DISPENSING CARTON FOR A ROLL FILM

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(56) Prior Art Documents
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AU 14765/88 B65D 85/676
AU 25563/53 B65D 85/676

(57) Claim

1. A dispensing carton in which a film wound cylindrically is contained, comprising a box including a bottom panel, a rear panel, a front panel, both side panels and an opening formed in the upper portion of the front panel, a lid member which is hingedly joined to the rear panel, a front flange joined to an end of said lid member to overlap the front panel when said lid member is closed, said front flange having a convex edge which protrudes downwardly to a base of said box, and a cutting member including plurality of saw-teeth edges which is lined up along said convex edge of said front flange, a length from the tip of at least one tooth of said saw-teeth edge nearest to said base of said box to the bottom of a gullet adjacent to said tooth being longer than a length from the tip of other teeth along the length of cutting member to the bottom of gullets adjacent to the other teeth.

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Form 10

COMMONWEALTH OF AUSTRALIA

PATENTS ACT 1952-69

COMPLETE SPECIFICATION

(ORIGINAL)

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Int. Class

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Complete Specification Lodged:

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Section 49 and is correct for
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Name of Applicant: KUREHA CHEMICAL INDUSTRY COMPANY, LIMITED

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Complete Specification for the invention entitled:

DISPENSING CARTON FOR A ROLL FILM

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

US

DISPENSING CARTON FOR A ROLL FILM

BACKGROUND OF THE INVENTION

The present invention relates to a dispensing carton which contains a roll film used to wrap foodstuffs and can cut the film to dispense it.

More particularly, the present invention concerns a dispensing carton for a roll film which can cut the film by a cutter exactly only by pulling out the film from the carton and further pulling it in the horizontal direction or twisting the carton slightly after pulled out the film in the horizontal direction.

Film used to wrap foodstuffs together with a tray on which the foodstuffs are put is wound into a roll and contained in a carton. The carton is provided with a cutter. The film pulled out from the carton is cut by the cutter to a desired length.

Fig. 11 is a perspective view showing a conventional dispensing carton for a roll film. A dispensing carton which is most analogous to the carton of Fig. 11 is disclosed in U.S. Patent No. 4,307, 828, for example.

In Fig. 11, numeral 1 denotes a dispensing carton formed into a rectangular parallelepiped. The carton 1 contains a film 30 wound about a core into a roll. A lid member 4 which covers an opening 3 of the carton 1 is joined

to a rear panel 2 of the carton 1. The lid member 4 is formed at an end thereof with a flange 6 which overlaps a front panel 5. A metal cutter 7 is mounted to a tip of the flange 6. A tip of the cutter 7 is provided with a saw-tooth edge which is slightly protruded from the tip of the flange 6 and is arranged straight along the tip of the flange 6.

The cutting operation of the film in the conventional dispensing carton is now described in detail. For convenience of the description, the rectangular coordinates X, Y and Z are defined in the dispensing carton as shown in Fig. 12. The X-axis is a perpendicular axis to the rear panel 2 and the front panel 5 and the direction extending to the front panel 5 from the rear panel 2 is the positive direction of the X-axis while the direction extending to the rear panel 2 from the front panel 2 is the negative direction of the X-axis. The Y-axis is a perpendicular axis to side panels 8 and 9 and the direction extending to the side panel 9 from the side panel 8 is the positive direction of the Y-axis while the direction extending to the side panel 8 from the side panel 9 is the negative direction of the Y-axis. The Z-axis is the perpendicular direction to both of the X- and Y-axes and the direction extending to the opening 3 from the base 1a is the positive direction of the Z-axis while the direction extending to the base 1a from the opening 3 is the negative

direction of the Z-axis.

The cutting operation in the conventional dispensing carton is described using the X, Y and Z axes defined above.

The dispensing carton is first held by the left hand and an end of the film 30 is then held by the right hand to pull out it in the positive direction of the X-axis in the X-Y plane. After the end of the film has been pulled out by a desired length as shown in Fig. 12, the corner of the film 30 near the position A shown in Fig. 12 is held by the right hand and is tensioned with a moderate tension T in the X-axis direction by both hands. A portion of the lid member 4 near the portion a shown in Fig. 12 is then depressed in the negative direction of the Z-axis by the left hand and at the same time the tension T given to the corner of the film near the portion A is slightly increased while the corner is slightly lifted in the positive direction of the Z-axis by the right hand. Consequently, an end of the film 30 is cut by a portion B of the cutter 7 and the film 30 is further cut along the cutter 7 in the negative direction of the Y-axis. The cut film is used to wrap foodstuffs put on a tray. However, the above cutting operation possesses the following drawbacks.

It is desirable that the tray is covered by the film 30 fully opened along the X-Y plane. However, actually,

when the portion a or its vicinity of the lid member is depressed in the negative direction of the Z-axis and at the same time the tension T is slightly increased while the corner of the film is slightly lifted up in the positive direction of the Z-axis by the right hand, the depressing operation in the negative direction of the Z-axis and the lifting operation of the positive direction of the Z-axis are often excessive or the increased amount of the tension T is often excessive. In such a case, the cut film 30 can not be kept opened fully along the X-Y plane and hence the film 30 held by the right hand is wrinkled or intertwined to be hung down so that an area of the film enough to cover the tray can not be obtained.

It is an object of the present invention to provide a dispensing carton for a roll film in which the film pulled out therefrom can be cut smoothly and completely without wrinkle and intertwinement only by pulling out the film from the carton and further pulling it in the horizontal direction or twisting slightly the carton after pulled out the film in the horizontal direction without lifting the pulled film from the carton extremely.

It is another object of the present invention to provide a dispensing carton for a roll film in which the film can be cut while fully spread horizontally and a tray is covered by the cut film fully spread without wrinkle and

intertwinement.

SUMMARY OF THE INVENTION

According to the present invention, a dispensing carton containing a film wound cylindrically comprises a bottom panel, a rear panel, a front panel, both side panels, a lid member joined hingedly to the rear panel, a front flange joined to an end of the lid member to overlap the front panel when the lid member is closed, and a cutting member provided along an end of the front flange. The end of the front flange is formed into a convex shape such as, for example, a V-shape and accordingly a saw-tooth edge of the cutting member which is lined up along the end of the front flange is also arranged to be protruded into a convex shape such as a V-shape. A length from the tip of at least one tooth of the saw-tooth edge nearest to a base of the box to the bottom of a gullet adjacent to the tooth is longer than a length from the tip of other teeth to the bottom of gullets adjacent to the other teeth. When the film is pulled out from the carton and is cut by the cutting member, the tooth positioned nearest to the base of said box first cuts into the film. When the film is further pulled, the portion cut by the tooth is extended along the saw-tooth edge of the cutting member and the film is smoothly and completely cut.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a dispensing carton, not opened, for a roll film according to the present invention;

Fig. 2 is a perspective view showing a dispensing carton, which has been opened, for a roll film according to the present invention;

Fig. 3 is a sectional view showing a dispensing carton not opened;

Fig. 4 is a sectional view showing a dispensing carton which has been opened and including a lid member which is closed;

Fig. 5 is an enlarged front view of a center portion of one embodiment of cutting member provided in the dispensing carton;

Fig. 6 is a perspective view showing a dispensing carton from which a film is pulled out to be cut;

Fig. 7 is an enlarged perspective view of a saw-tooth edge of a cutting member which cuts into a film when a dispensing carton is twisted;

Fig. 8 is an enlarged front view of a center portion of a cutting member provided in a dispensing carton according to another embodiment of the present invention;

Fig. 9 is an enlarged front view of a center portion of a cutting member provided in a dispensing carton

according to a further embodiment of the present invention;

Fig. 10 is an enlarged front view of a center portion of a cutting member provided in a dispensing carton according to a still further embodiment of the present invention;

Fig. 11 is a perspective view showing a conventional dispensing carton for a roll film; and

Fig. 12 is a perspective view illustrating a cutting operation of a film in a conventional dispensing carton for a roll film.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to Figs. 1 and 2, there is shown a dispensing carton 11 manufactured of paper. The carton 11 includes a rear panel 13, a front panel 18, side panels 28 and 29 and a bottom panel, and is formed into a rectangular parallelepiped. The carton 11 includes an opening 12 formed in the upper portion thereof. A lid member 14 which covers the opening 12 is integrally joined to an upper end of the rear panel 13 of the carton 11. A front flange 15 and a tear strip 17 continuously provided to the front flange 15 are provided in a front end of the lid member 14. The front flange 15 and the tear strip 17 are separated by a line of perforation 16. Both sides of the lid member 14 is formed with side flanges 20a and 20b. As shown in Fig. 3, before

the carton is opened, the rear side of the tear strip 17 is joined to the front side of the front panel 18 at several spots with paste 19.

The carton 11 contains a film 30 wound on a core 22 into a roll. The film is made of, for example, synthetic resin such as vinylidene chloride copolymers, poly-vinyl chloride or poly-butadiene.

A metal cutter 21 is mounted to a rear side of the end of the front flange 15. A tip of the cutter 21 is formed with a saw-tooth edge which is protruded from the end of the front flange 15. The saw-tooth edge of the cutter 21 is positioned behind the tear strip 17 in the unopened state in which the tear strip 17 is not removed as shown in Figs. 1 and 3. The saw-tooth of the cutter 21 is exposed from the end of the front flange 15 in the opened state in which the tear strip 17 has been removed.

The line of perforation 16 formed between the front flange 15 and the tear strip 17 is of a V-shape. Accordingly, when the tear strip 17 is cut and removed from the line of perforation 16, the end of the front flange 15 is of a convex shape as shown in Fig. 2 and a peak C of the convex edge positioned at a substantially central portion thereof is disposed nearest to the front end 11a of the bottom panel of the carton. In the embodiment shown in Figs. 1 and 2, since the line of perforation 16 is of V-shape, the

shape of the end of the front flange 15 with the tear strip 17 removed is of V-shape. Since the cutter 21 is provided along the end of the front flange 15, teeth of the saw-tooth edge of the cutter 21 are arranged into the V-shape lined up along the end of the front flange 15. A tooth positioned at a turning point C_0 of the teeth of the saw-tooth edge is disposed nearest to the front end 11a of the bottom panel.

As shown in Fig. 5 on the enlarged scale, the tooth 21b positioned at the turning point C_0 nearest to the front end 11a of the bottom panel of the carton 11 is larger than other teeth 21a. In the embodiment of Fig. 5, a depth h_1 of gullets adjacent to the tooth 21b at its both sides is formed larger than a depth h_2 of gullets between the other teeth 21a. An angle at the tip of the tooth 21b positioned at the turning point C_0 and the other teeth 21a is the same angle (θ). Accordingly, a pitch P_1 between the tip of the tooth 21b positioned at the turning point C_0 and the tip of the teeth 21a adjacent to the tooth 21b is longer than a pitch P_2 between the tips of the other teeth 21a. thus, an area of the tooth 21b and a height from the tip thereof to the bottom of the gullet thereof are larger as compared with the other teeth 21a. However, the tip of the tooth 21b positioned at the turning point C_0 is positioned on phantom lines A_1 and A_2 connecting the tips of the other teeth 21a. In other words, the tips of all the teeth are positioned on

the phantom lines A_1 and A_2 extending obliquely to the right and left of the tooth 21b and the tip of the tooth 21b at the turning point C_0 is positioned at an intersecting point of the phantom lines A_1 and A_2 . In the embodiment, since the teeth of the cutter 21 are arranged into V-shape and the tooth 21b positioned at the turning point C_0 is larger than the other teeth 21a, the tooth 21b can cut into the film so that the film can be cut with smaller force as compared with a force required to cut the film in the conventional dispensing carton for a roll film. Accordingly, it is not necessary to make small the radius of curvature R of the tips of the teeth 21a and 21b to make sharp the edge of the teeth and even if the radius of curvature R is made larger and the edge of the teeth 21a and 21b is made blunt, the film can be cut sufficiently. The blunt edge can ensure the safety for the user as compared with the conventional dispensing carton.

As shown in Fig. 2, a resinous tape 18a is affixed on the upper middle surface of the front panel 18 of the dispensing carton 11. The wrapping film left in the carton 11 after pulled out from the carton 11 and cut by the cutter 21 adheres closely to the tape 18a and is retained between the front panel 18 and the front flange 15 to prevent the remaining film from being wound back into the carton 11.

The usage of the dispensing carton according to

the embodiment is now described, using the X, Y and Z axes of the rectangular coordinates. The X-axis is a perpendicular axis to the rear panel 13 and the front panel 18 and the direction extending from the rear panel 13 to the front panel 18 is the positive direction of the X-axis while the direction extending from the front panel 18 to the rear panel 13 is the negative direction of the X-axis. The Y-axis is a perpendicular axis to the side panels 28 and 29 and the direction extending from the side panel 28 to the side panel 29 is the positive direction while the direction extending from the side panel 29 to the side panel 28 is the negative direction. The Z-axis is a perpendicular axis to both of the X- and Y-axes and the direction extending from the bottom panel to the opening 12 is the positive direction while the direction extending from the opening 12 to the bottom panel is the negative direction.

Thus, the usage of the dispensing carton according to the present invention is described with the X, Y and Z axes overlapped thereon.

When the carton is opened, the tear strip 17 joined to the front panel 18 of the carton 11 is stripped off and separated from the front flange 15 along the perforation line 16. When the tear strip 17 has been removed, the end of the front flange 15 is of V-shape as shown in Figs. 2 and 6 and the saw-tooth edge of the cutter

21 is exposed along the front end of the front flange 15 as shown in Fig. 2. After the removal of the tear strip 17, the upper end 13a of the rear panel 13 of the carton 11 serves as a hinge so that the lid member 14 and the front flange 15 can be opened and closed with respect to the opening 12 of the carton 11.

After the tear strip 17 has been removed and the carton has been opened, the wrapping film 30 wound on the core 22 is pulled out from between the front panel 18 and the front flange 15 as shown in Fig. 4. After the film 30 has been pulled out by a desired length, the dispensing carton 11 is held by the left hand and the front flange 15 or the lid member 14 is held by the thumb, for example, as shown in Fig. 6. Further, the film 30 is held at the central tip thereof by the right hand. As described above, the end of the front flange 15 is formed into the V-shape and the teeth of the cutter 21 protruded from the end of the front flange are also arranged into the V-shape, of which the substantially central portion is the turning point C₀. Further, the tooth 21b positioned at the turning point C₀ is substantially larger than the other teeth 21a and the pitch P₁ between the tips of the tooth 21b and the right and left teeth 21a adjacent to the tooth 21b is also larger than the pitch P₂ between the tips of the other teeth 21a. With such a saw-tooth edge having the special shape as described

above, when the center portion of the film 30 is pulled in the positive direction of the X-axis (+X) or pulled while being slightly lifted in the positive direction of the Z-axis (+Z), the tooth 21b positioned at the turning point C_o cuts into the center portion of the film. Then, when the film 30 is further pulled, the cut line CL (Fig. 7) formed in the center portion of the film by the tooth 21b extends along the arrangement of the teeth 21a at both sides of the tooth 21b toward both side ends of the film so that the film 30 is cut smoothly and completely into V-shape. A method of cutting the film with the smallest force is that the film 30 is pulled in the positive direction of the X-axis (+X) by the right hand with a small force to tension the film and at the same time the wrist of the left hand holding the carton 11 is twisted slightly in the direction shown by arrow *a* in Fig. 6. The tooth 21b of the cutter 21 positioned at the turning point C_o cuts into the center portion of the film 30 sharply by the twisting operation. Then, when the film 30 is further pulled in the positive direction of the X-axis (+X) by the right hand with small force as it is, the cut line CL (Fig. 7) formed in the center portion of the film 30 extends along the arrangement of the teeth 21a leftward and rightward, so that the film 30 is cut with small force smoothly and completely without wrinkle or intertwinement.

As described above, the film 30 can be cut exactly

and completely by pulling the film from the carton 11 in the positive direction of the X-axis (+X) or slightly upward (in the positive direction of the Z-axis) or by twisting the carton 11 in the direction of arrow *a* while pulling the film 30 slightly in the positive direction of the X-axis (+X) and maintaining the film in the pulled state. Further, since it is not necessary to twist the film in the positive direction of the Z-axis (+Z) in order to cut the film 30, the film 30 is cut while fully spread substantially horizontally (in the X-Y plane). Accordingly, any wrinkle is not formed in the cut film or the film is not joined to each other with intertwinement. Thus, if the cut film 30 held by the right hand is lowered to an object to be wrapped such as foodstuffs and a tray as it is, the cut film 30 which has been spread substantially horizontally (in the X-Y plane) with a sufficient area is put on the object.

As described above, in the embodiment, since the tooth 21b of the cutter 21 positioned at the turning point C₀ is larger than the other teeth 21a, the tooth 21b tends to cut into the center portion of the film 30. Fig. 7 shows the tooth 21b positioned at the turning point C₀ and which cuts into the center portion of the film 30. Further, Fig. 7 shows the cutting operation in the case where the carton 11 is twisted in the direction of *a*. It is a matter of course that the cutting state is the same as that of Fig. 6 even

when the film 30 is merely pulled by the right hand in the positive direction of the X-axis (+X) or slightly upward (in the positive direction of the Z-axis) without twisting the carton 11. Since the tooth 21b is positioned at the turning point C₀ and is nearest to the front end 11a of the bottom panel as compared with the other teeth, the tooth 21b first cuts into the film. Further, the gullets (shown by β in Fig. 7) adjacent to the tooth 21b at the right and left sides thereof are deeper than the gullets (γ , γ_1) between the other teeth 21a. Accordingly, when the saw-tooth edge cuts into the film by the mutual force applied to the film (10) and the carton 11 and the film 30 reaches the bottom of the gullet γ_1 , there is a margin K between the film and the bottom of the deepest gullets β . Accordingly, force is then applied to the film so that the film can be further cut by both edges of the tooth 21b by the margin K. Thus, the cut line CL formed by the tooth 21b positioned at the turning point C₀ is further extended. The cut line CL tends to be extended along the arrangement of the teeth rightward and leftward in response to the extension of the cut line CL, so that the film can be cut with small force.

In the saw-tooth edge shown in Fig. 5, the tip of the tooth 21b is positioned on the phantom lines A₁ and A₂ connecting the tips of the other teeth 21a and is not protruded from the lines A₁ and A₂. Accordingly, even if the

hand comes into contact with the saw-tooth edge, the hand is safe.

In an embodiment shown in Fig. 8, gullets disposed at both sides of three teeth 21b of the cutter 21 including the tooth thereof positioned at the turning point C₀ as well as right and left teeth adjacent thereto are deeper than gullets between teeth 21a except the three teeth 21b. Accordingly, all of the three teeth 21b are larger than the other teeth 21a. Further, in the embodiment, the tips of all of the teeth 21a and 21b are positioned on the common phantom line A₁ or A₂. In the cutting operation of the film, the three teeth 21b cut into the film to make the cut line CL in the center portion of the film 30.

In a further embodiment shown in Fig. 9, the tip of a tooth 21c of the cutter 21 positioned at the turning point C₀ is protruded from the phantom lines A₁ and A₂ connecting the tips of other teeth 21a. The bottoms of gullets between all teeth 21a and 21b are positioned on a common phantom line (B₁ and B₂). Further, an area of the tooth 21c positioned at the turning point C₀ is larger than that of other teeth 21a. In this embodiment, since the tooth 21c positioned at the turning point C₀ is protruded toward the bottom panel as compared with the other teeth 21a, the protruded tooth 21c cuts into the film to make the cut line CL.

In a further embodiment shown in Fig. 10, any tooth is not positioned at the turning point C_0 of the cutter 21 and a gullet β_1 is positioned at the turning point C_0 . The depth h_1 of the gullet β_1 is larger than the depth h_2 of the other gullets. All gullets other than the gullet β_1 have the same depth h_2 . The tips of right and left teeth 21d adjacent to the gullet β_1 are positioned on the phantom line A_1 or A_2 connecting the tips of the other teeth 21a. In the embodiment, since the large gullet β_1 is formed at the turning point C_0 , the teeth 21d adjacent to the gullet β_1 at both sides thereof easily cuts into the center portion of the film. More particularly, when the film 30 is cut, the difference K_1 between the depth h_1 of the gullet β_1 and the depth h_2 of the other gullets serves in the same manner as the margin K of Fig. 7 and the film is cut by the edges of the teeth 21d deeply by the margin K_1 so that the cut line serving as a first opening in cutting the film 30 is easily formed.

In the above embodiments, it is not necessary that the tooth 21b shown in Fig. 5, the central tooth 21b of the three teeth 21b shown in Fig. 8, the tooth 21c shown in Fig. 9, and the gullet β_1 shown in Fig. 10 are exactly positioned on the turning point C_0 and even if such a tooth or gullet is slightly deviated right or left from the turning point C_0 , such a deviation is not departed from the

sprit of the present invention.

In a further embodiment, a saw-tooth edge of the cutter may be formed with a tooth positioned at the turning point C_0 which includes the top protruded from the phantom lines A_1 and A_2 as shown in Fig. 9 and the gullets adjacent to both sides of the tooth and having the depth thereof deeper than that of the gullets between other teeth as shown in Fig. 5. Further, the saw-tooth edge of the cutter may be formed with two teeth 21b larger than other teeth as shown in Fig. 8 and disposed so that the turning point C_0 is disposed between the two larger teeth 21b.

Further, it is not necessary that the tip C of the front flange 15 and the turning point C_0 of the cutter 21 are positioned at the center thereof, and the tip C and the turning point C_0 may be positioned eccentrically rightward or leftward. The phantom lines A_1 and A_2 connecting the tips of the teeth are not required to be straight slant lines and may be a circular arc having a large curvature or another curve. In this case, however, the tooth 21b or 21c or the gullet β_1 shown in Fig. 10 is ideally disposed in the vicinity of the position on the curve nearest to the front end 11a of the bottom panel.

As described above, according to the present invention, the end of the front flange is of convex shape and the cutter is provided along the end of the front

flange. The large tooth or gullet of the saw-tooth edge of the cutter is disposed at the position nearest to the bottom panel. Accordingly, the cutter easily cuts into the film in the cutting operation of the film. Thus, by pulling the film in the positive direction of the X-axis or slightly in the positive direction of the Z-axis or by twisting the carton in the clockwise direction while pulling the film, the film is smoothly and completely cut from the center portion to both ends thereof. Further, any wrinkle is not formed in the cut film and the cut film is not joined to each other with intertwinement so that the cut film which has been spread substantially in the X-Y plane is put on an object to be wrapped.

The claims defining the invention are as follows:

1. A dispensing carton in which a film wound cylindrically is contained, comprising a box including a bottom panel, a rear panel, a front panel, both side panels and an opening formed in the upper portion of the front panel, a lid member which is hingedly joined to the rear panel, a front flange joined to an end of said lid member to overlap the front panel when said lid member is closed, said front flange having a convex edge which protrudes downwardly to a base of said box, and a cutting member including plurality of saw-teeth edges which is lined up along said convex edge of said front flange, a length from the tip of at least one tooth of said saw-teeth edge nearest to said base of said box to the bottom of a gullet adjacent to said tooth being longer than a length from the tip of other teeth along the length of cutting member to the bottom of gullets adjacent to the other teeth.

2. A dispensing carton according to Claim 1 wherein a length from the tip of at least one tooth of said saw-teeth edge nearest to said base of said box to the bottom of gullets adjacent to said tooth at both sides thereof is longer than a length from the tip of other teeth along the length of cutting member, to the bottom of gullets adjacent to said other teeth along the length of cutting member.

3. A dispensing carton according to Claim 2 wherein the tip of at least said longer one tooth is positioned on phantom lines connecting plural tips of said other teeth along the length of cutting member.

4. A dispensing carton according to Claim 1, wherein a length from the bottom of one gullet of said saw-teeth edge nearest to said base of said box to the tip of teeth adjacent to said gullet at both sides thereof is longer than a length from the bottom of other gullets along the length of cutting member to the tip of teeth adjacent to said other gullets along the length of cutting member.



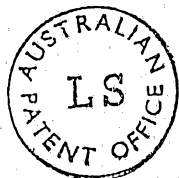
5. A dispensing carton according to Claim 2, wherein the tip of at least one tooth which is adjacent to said deeper gullet is protruded from phantom lines connecting plural tips of said other teeth along the length of cutting member.

6. A dispensing carton in which a film wound cylindrically is contained, comprising a box including a bottom panel, a rear panel, a front panel, both side panels and an opening formed in the upper portion of the front panel, a lid member which is hingedly joined to the rear panel, a front flange joined to an end of said lid member to overlap the front panel when said lid member is closed, said front flange having the apex of V-shaped edge which protrudes downwardly to a base of said box, and a cutting member including plurality of saw-tooth edge which is lined up along said V-shaped edge of said front flange, a length from the tip of at least one tooth of said saw-teeth edge positioned at a turning point of said V-shaped edge to the bottom of a gullet adjacent to said tooth being longer than a length from the tip of other teeth along the length of cutting member to the bottom of gullets adjacent to the other teeth along the length of cutting member.

7. A dispensing carton according to Claim 6, wherein a length from the tip of at least one tooth of said saw-teeth edge positioned at said turning point of said V-shaped edge to the bottom of gullets adjacent to said tooth at both sides thereof is longer than a length from the tip of other teeth along the length of cutting member to the bottom of gullets adjacent to said other teeth along the length of cutting member.

8. A dispensing carton according to Claim 7 wherein the tip of at least said longer one tooth is positioned on V-shaped phantom lines connecting plural tips of said other teeth.

9. A dispensing carton according to Claim 6, wherein a length from the bottom of one gullet of said saw-tooth edge positioned at a turning point of said V-shaped edge to the tip of teeth adjacent to said gullet at both sides thereof is



longer than a length from the bottom of other gullets along the length of cutting member to the tip of teeth adjacent to said other gullets along the length of cutting member.

10. A dispensing carton according to Claim 7, wherein the tip of at least one tooth which is adjacent to said deeper gullet is protruded from V-shaped phantom lines connecting plural tips of said other teeth along the length of cutting member.

Dated this 12 day of July 1990

KUREHA CHEMICAL INDUSTRY COMPANY LIMITED

by WATERMARK PATENT & TRADEMARK ATTORNEYS
290 Burwood Road
Hawthorn
VICTORIA 3122



FIG. 1

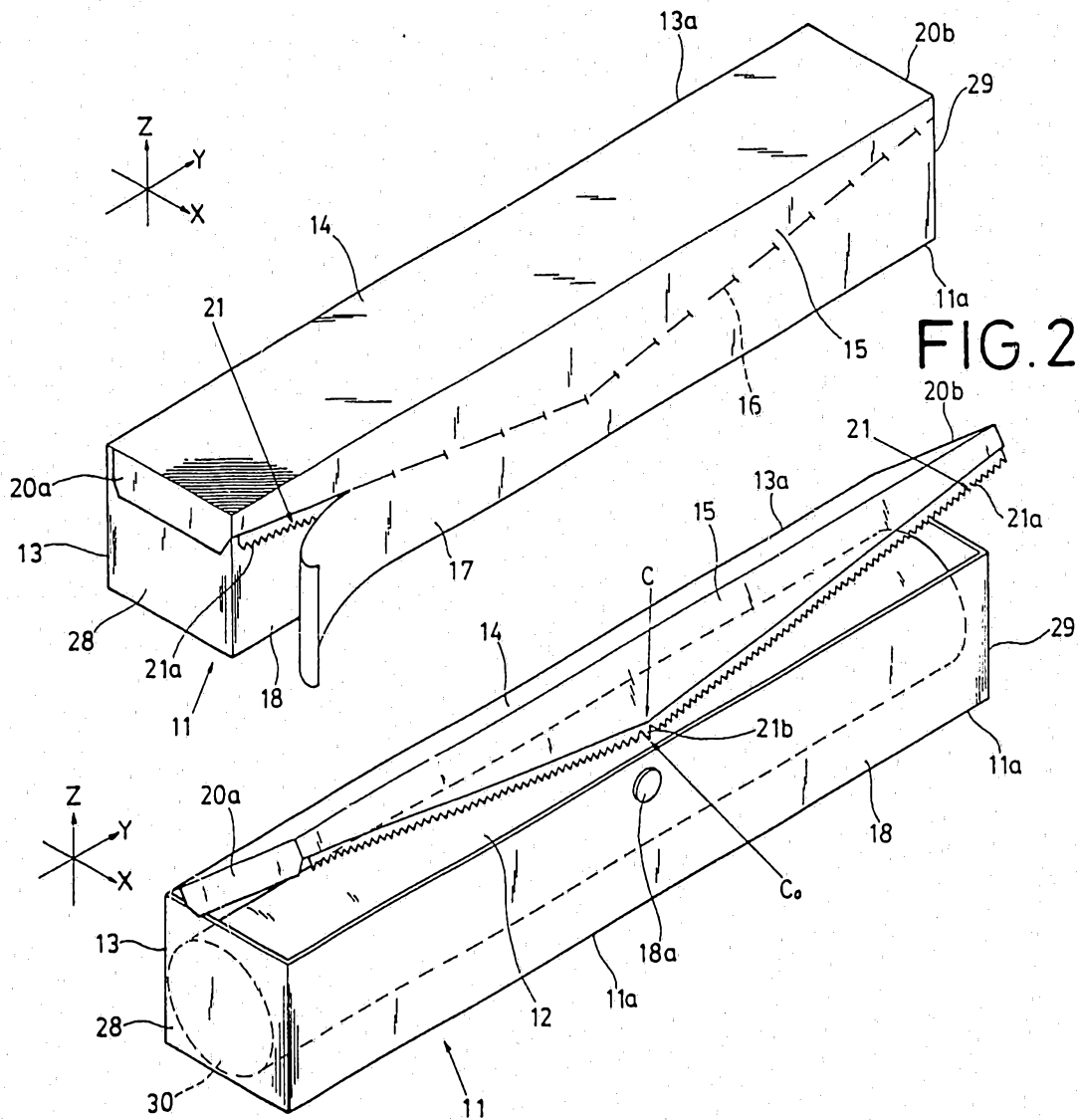


FIG. 3

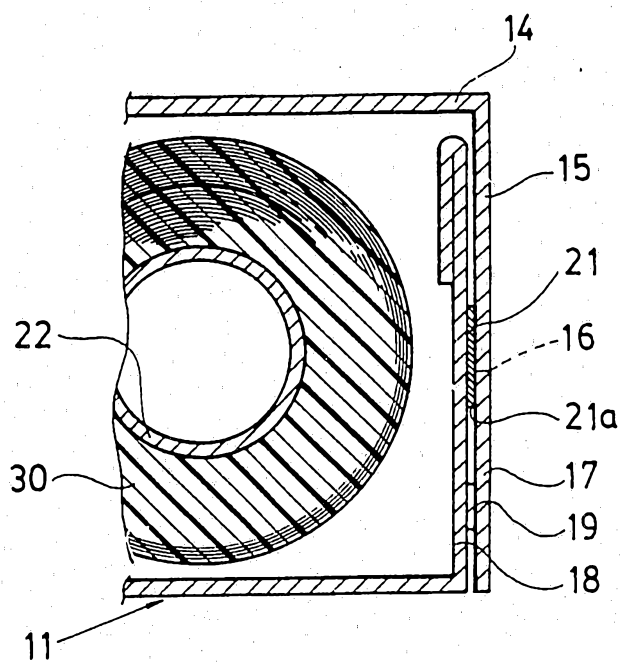


FIG. 4

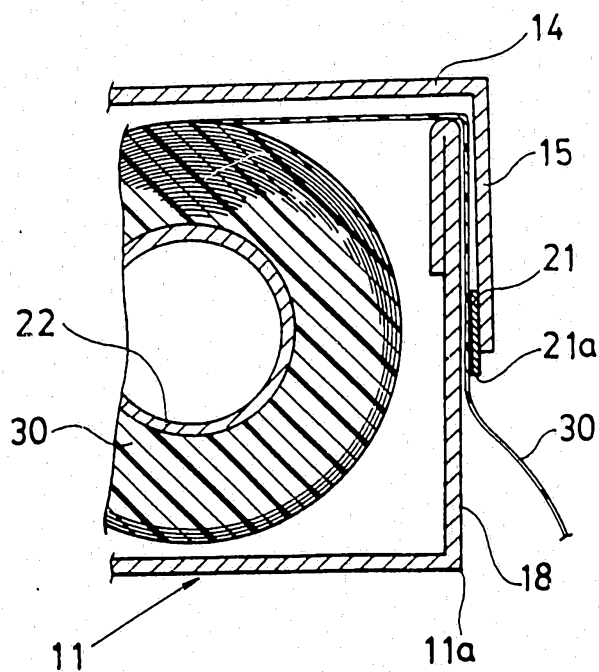
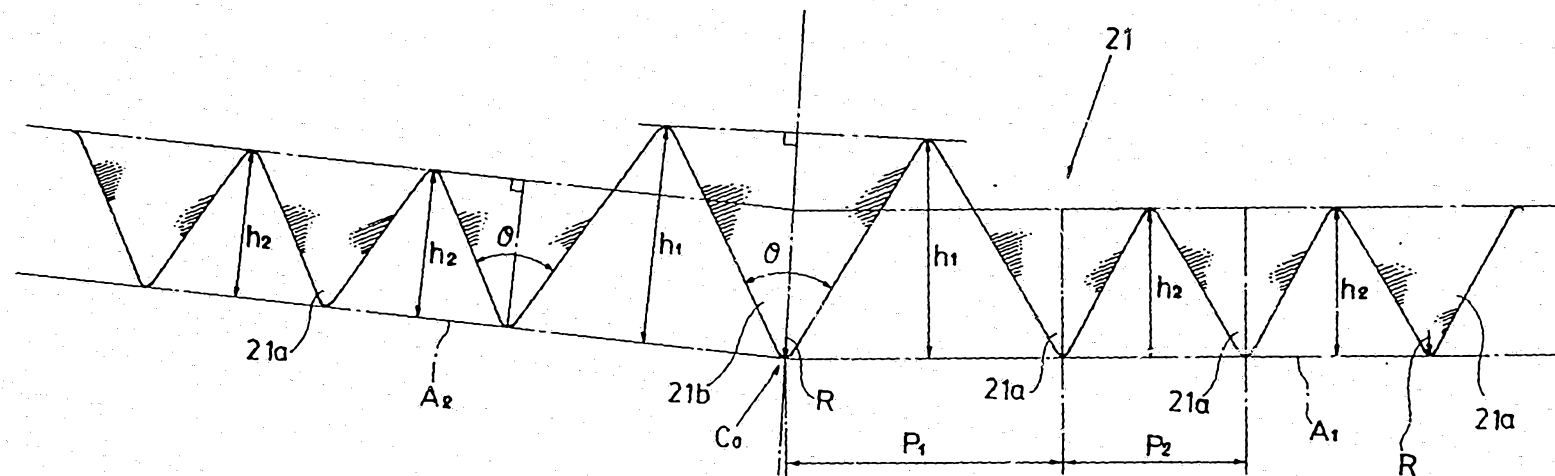
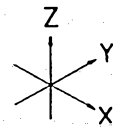


FIG.5

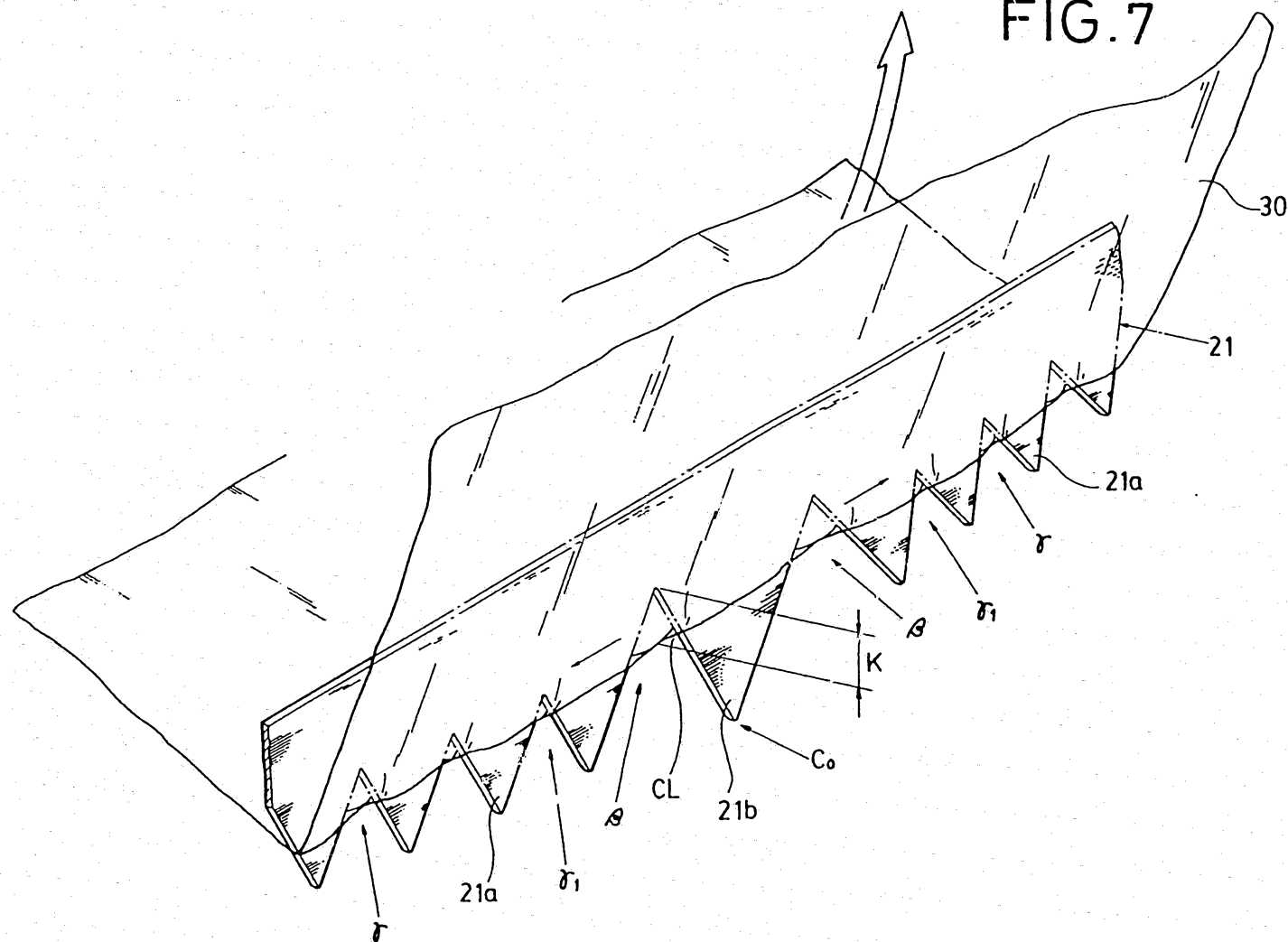




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FIG. 7



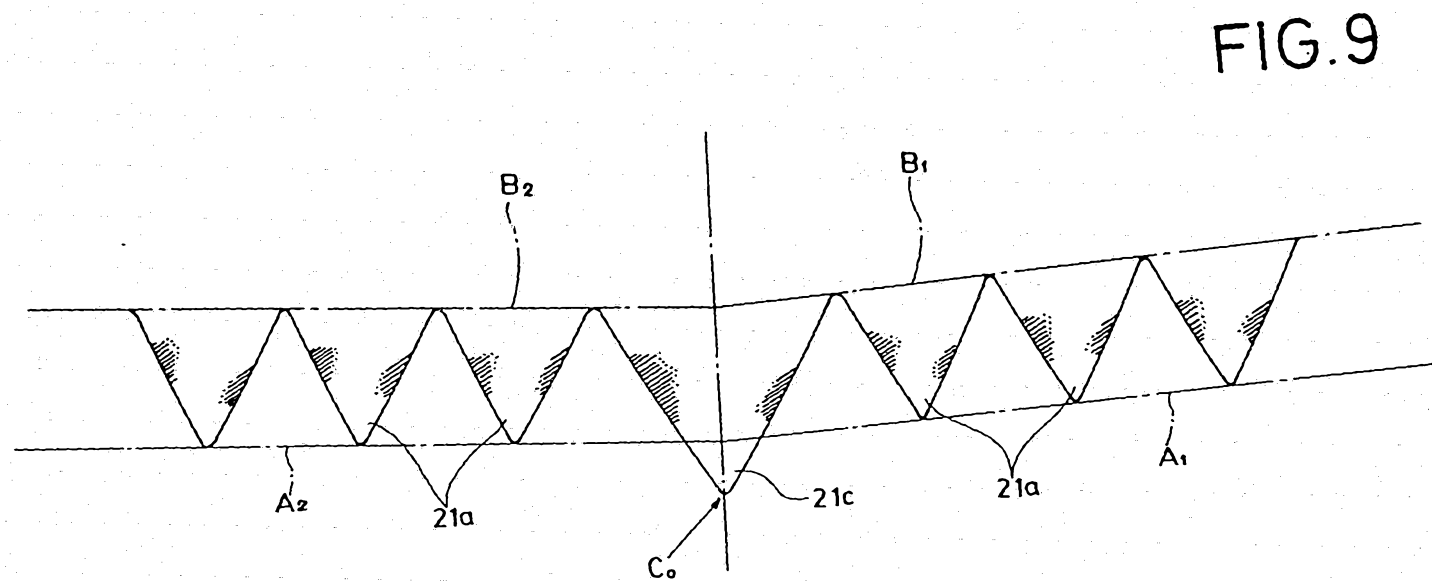
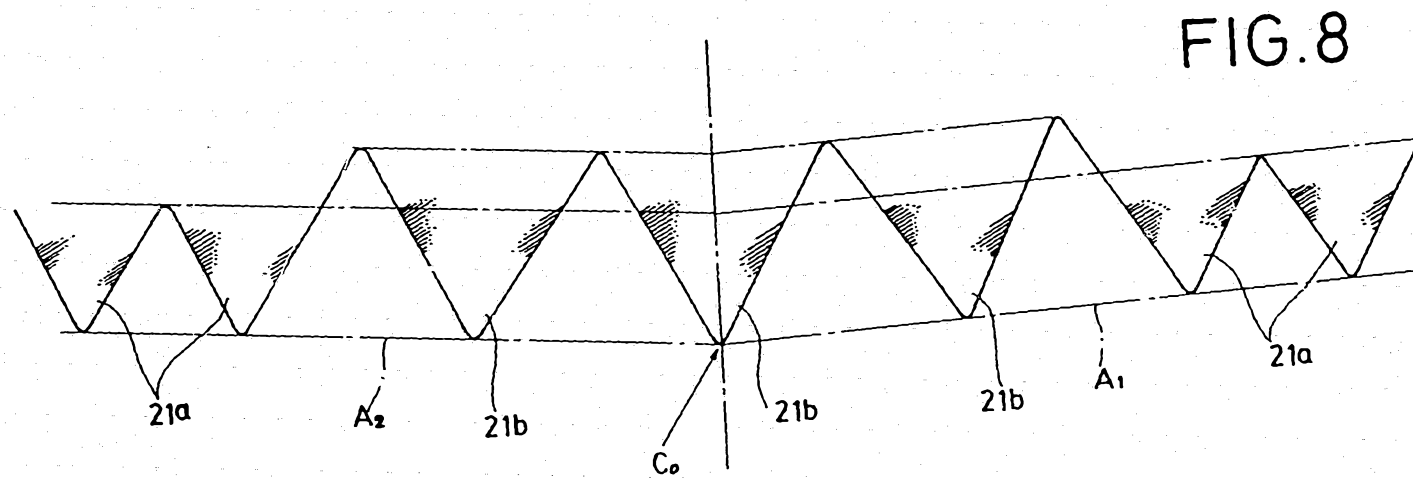


FIG.10

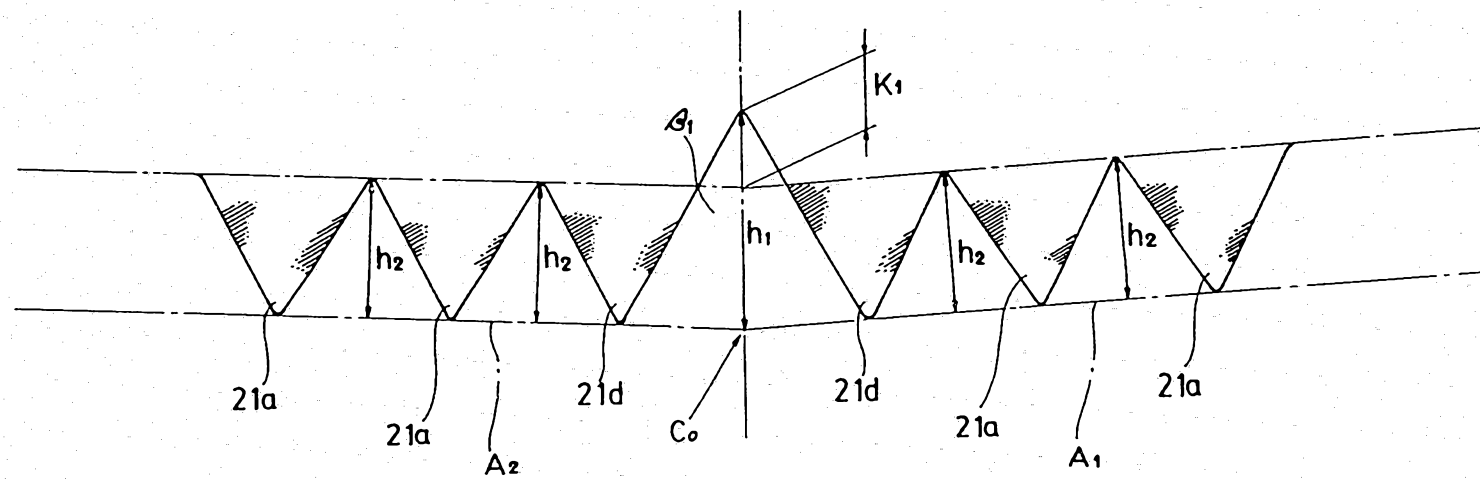


FIG.11 (Prior Art)

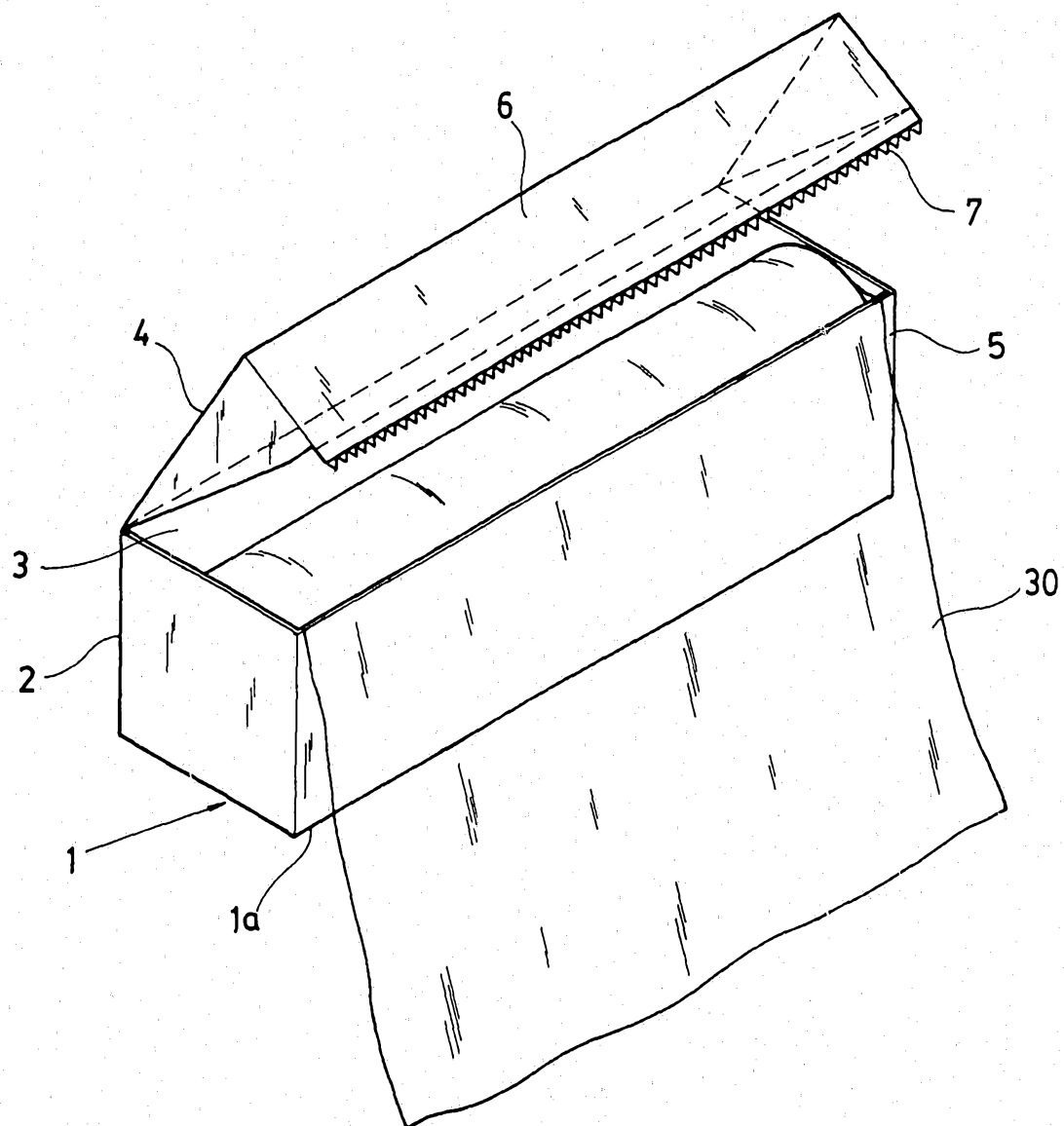


FIG.12(Prior Art)

