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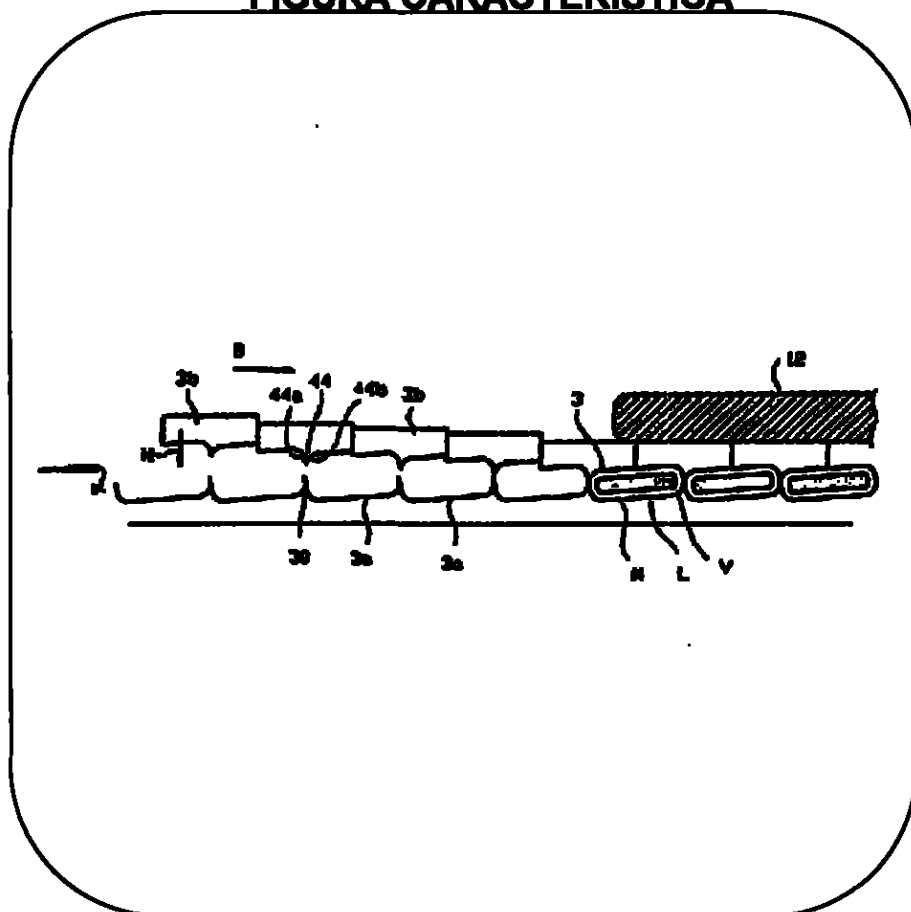
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Anexos:

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- ☐ Comprobante de pago por reivindicación de prioridad.
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FIGURA CARACTERÍSTICA

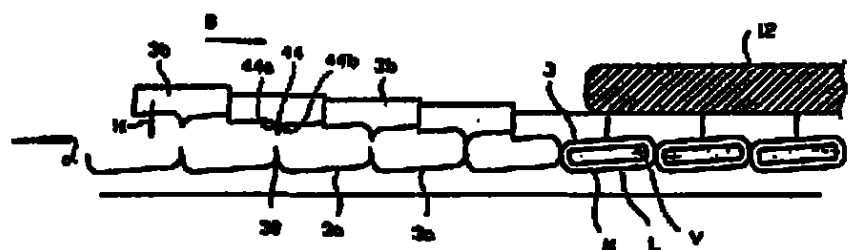
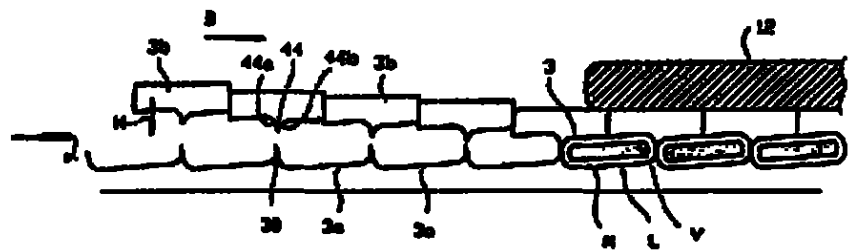
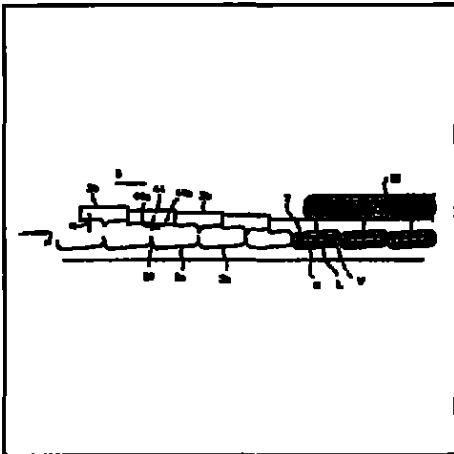


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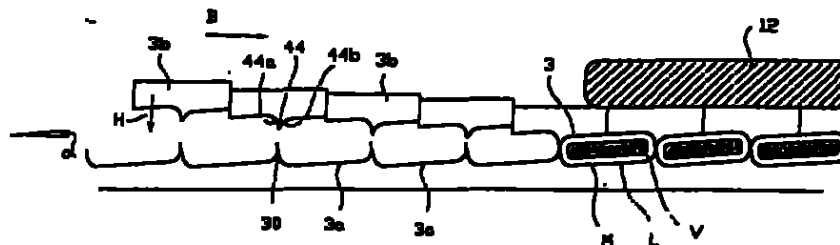
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(54) Title: DEVICE AND METHOD FOR MANUFACTURING AND PACKAGING LOLLIPOPS



(57) Abstract: Device for manufacturing lollipops, comprising a stationary supply (4, 5a, 5b) for a strand (5) of lollipop material in flat cross-section condition, a series of flat lollipop moulds (3a, 3b) movable past the supply according to a path of movement. The lollipop moulds having a main axis and each consisting of a lower mould (3a) and an upper mould (3b), which can be closed onto the lower mould while cutting off a leading portion of the strand, the supply being positioned for discharge of the strand in a direction transverse to the main axis.

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Device and method for manufacturing and packaging lollipops

The invention relates to a device and a method for manufacturing lollipops.

It is known to supply a strand of confectionery to a lollipop machine, which is provided with a drum having a series of lower moulds on it and a series of upper moulds that can successively be closed onto them, which together define a mould space for manufacturing so-called round lollipops. The upper moulds are offset half a mould pitch with respect to the lower moulds, such that each upper mould defines half the upper side of the one mould and half the upper side of the next mould, and in between is provided with a downwardly extending rib, cooperating with the opposite rib between the lower moulds. After closing the upper mould, which takes place by tilting the upper mould in a plane containing the centre line of the drum, on the one hand a stamp is pressed into the mould cavity from one axial end, and after that from the other axial end a stick into the lollipop mass. After approximately half a revolution of the drum the upper moulds are opened again and the lollipops are taken over by a transferrer for transfer to a packaging conveyor, in which they are packaged in a sandwich packaging.

The strand is supplied in a more or less tangential direction to the drum. For manufacturing round lollipops having a filling, a strand is supplied which is provided with a filling in the centre.

It is furthermore known to manufacture and package flat lollipops, that means lollipops having an unround or flattened or perfectly flat cross-section, in a sandwich packaging. A strand of confectionery is then supplied in flat shape to a drum provided with a circumferential series of

moulds. The moulds are accessible to the strand from one axial side, which strand is subsequently cut through by means of a separate cutter, after which the moulds are closed. At the radial inside the mould is pressurised, after which a stick is inserted from the other axial side.

5

It is an object of the invention to provide a device and method for manufacturing flat lollipops having a filling.

10

A further object of the invention is to provide a device and method for manufacturing flat lollipops at high speed.

Yet a further object of the invention is to provide a device and method for manufacturing flat lollipops having rounded off edges.

15

For achieving at least one of said objects the invention provides from one aspect a device for manufacturing lollipops, comprising a stationary supply for a strand of lollipop material a flat cross-section condition, a series of flat lollipop moulds movable past the supply according to a path of movement, the lollipop moulds having a main axis and each consisting of a

20

lower mould and an upper mould, which can be closed onto the lower mould while cutting off a leading portion of the strand, the supply being positioned for discharge of the strand in a direction transverse to the main axis.

25

It has appeared that with the device according to the invention flat lollipops can be made at high speed, possibly lollipops with a filling.

30

After manufacturing the flat lollipops they have to be removed out of the moulds. The upper moulds are then first turned away from the lower moulds, and after that the lollipops can be dropped out of the lower moulds or actively be removed. However, the lollipops have a sticky outside, as a result of which there is a chance that the lollipops keep

sticking in the lower moulds. In order to prevent that a filled lower mould arrives again at the strand supply, in the manufacturing of round lollipops use is therefore made of a scraper placed behind the intended location of discharge of the lollipops from the moulds, which scraper has to exert an expelling force on the lollipops. This is not always successful, as a result of which a lollipop remains where it is or the scraper scrapes off a piece of the lollipop. In case of flat lollipops this problem is much bigger as the sticky surface is relatively large. The risk of sticking in the mould increases then. A lower mould having a smaller surface than the upper mould is therefore strived for, so that the part protruding from the lower mould is bigger, but as a result this may affect the filling process.

To that end the invention, from a further aspect, provides a device of the aforementioned type, in which the moulds, considered in cross-sectional plane transverse to the main axis, are inclined with respect to the path of movement. As a result the scraper or the like may initiate an extra vertical force, due to which discharge of the flat lollipops is enhanced.

Preferably the moulds with their in process direction leading edges are at a higher level than their in process direction trailing edges, as a result of which a loosening tool, such as a scraper or the like is able to exert a tilting moment on the flat lollipops in the moulds. The tilting angle may be of the order of magnitude of 4-10 degrees.

In one embodiment use is made of a stationary scraper extending from the upstream side to just above the boundaries of the lower moulds.

Preferably the upper moulds are each defined by connecting portions of two adjacent upper mould members, which are closable in succession onto the lower mould while cutting off a leading portion of the strand, the upper mould members being arranged in a staggered manner over half a mould width with respect to the lower moulds.

It is known to let the upper moulds each be defined by the connecting portions of two adjacent upper mould members, which are closable in succession onto the lower mould while cutting off a leading portion of the strand, the upper mould members being arranged staggered over half a mould width with respect to the lower moulds, the upper mould members being provided with a first separation rib oriented towards the lower mould, and the lower moulds being separated from each other by means of a second separation rib, which is positioned for closing contact with the first separation rib, the upper mould members being tiltable about an axis transverse to the main axis of the lollipop mould from an open position to a closing position and the separation ribs being capable of exerting a cutting action with each other on the strand.

However, it may occur that after closing the moulds the lollipops remain connected to each other by means of a thin fleece. This fleece may remain intact during pressing in the lollipops in the moulds, so that adjacent lollipops at the location of the discharge to further parts of the device can still be stuck together. As a result the further process is disrupted. This is improved upon by a further measure according to the invention, according to which the first and second separation ribs in the direction of the main axis have been provided with corresponding discontinuities, such as steps.

Here also a cutting edge is realised running in a deviating direction (namely deviating from the usually straight separation ribs). Usually the lollipop mass is pressed in the closed mould in the direction of the main axis. During pressing the lollipop mass in the closed moulds the fleece, which moves along, partially or as a whole encounters the discontinuity, and thereby is torn or cut off, so that adjacent lollipop masses are separated from each other. The cutting action is further enhanced when the discontinuity forms a step oriented perpendicular to the main axis.

The flat strand is pressed flat during the cutting off at the leading and the

trailing side and cut through in a reliable manner. Because of the discontinuities, such as steps, the separation can be sharp and reliable to a large extent.

- 5 The design of the cutting edges of the lower mould and the upper mould in the device according to the invention renders the device very suitable to use in the manufacturing of flat lollipops provided with a filling from a flat strand supplied transverse to the main axis. This is further enhanced when the separation ribs are formed smoothly concave, or the upper and lower
- 10 moulds are sidewardly limited by rounded off edges extending in the direction of the main axis.

- The cutting action is further enhanced when the discontinuity forms a step oriented perpendicular to the main axis.

15

The cutting action is further enhanced when the discontinuity forms a step forming a cutting edge which is substantially tangential to the tilting path of the upper moulds.

- 20 Preferably the discontinuity is situated approximately halfway the main axis of the mould, as a result of which the strand undergoes a double cutting action in the centre.

- The cutting action is further enhanced when the second separation rib
- 25 forms a step oriented away from the tilting axis and the device is provided in the usual manner with means active in a direction away from the tilting axis for pressing the lollipop mass in the mould in the direction of the main axis. The first separation edge will form a cutting edge facing the tilting axis, along which the lollipop mass is pressed.

30

It is further preferred when the discontinuity forms a tip by which the fleece is immediately effectively engaged in cutting through.

The second separation rib preferably comprises a low portion and a high portion separated by the discontinuity.

5 In case of the aforementioned scraper it may in an advantageous manner extend into the path of the lower positioned portion of the second separation rib, so that it extends as low as possible, in that case possibly even below the centre section of the lollipop.

10 It is noted that the separation ribs having discontinuities as mentioned above are particularly advantageous in the forming of flat lollipops, but that they can already be advantageous in the forming of lollipops having other shapes, such as round lollipops.

15 Preferably the upper and lower moulds are sidewardly bounded by rounded off edges extending in the direction of the main axis and changing into the first and the second separation ribs, respectively.

20 When using the separation ribs provided with discontinuities it is advantageous when the scraper extends in the path of the lower positioned portion of the separation rib of the lower mould.

25 Preferably the device with the flat moulds is furthermore provided with means for pressing the mass of the leading portion of the strand accommodated in the mould in the direction of the main axis and/or with means for urging a lollipop stick into the mass in an opposite direction. It is furthermore preferred when the moulds are arranged on a drum, the lower moulds being a part of the surface of the drum.

30 A general problem in lollipop manufacturing machines is that the stock of lollipop sticks can run out, and that when this is established -often not until at the exit of the accompanying packaging machine: lollipops without a stick are then packaged- a considerable number of moulds have been filled

with lollipop material. The lollipops made -without a stick- can be thrown away, which is a big waste of material.

It is a further object of the invention to provide a general solution for this problem. From a further aspect of the invention a device is provided to that end for manufacturing lollipops from a strand of lollipop material, furthermore provided with a stock of lollipop sticks and a stock sensor for detecting the sticks in stock at a certain recognizable level related to a number of sticks in stock, the supply comprising supply rollers active on traction for the strand, as well as a strand cutter positioned upstream of it, the stock sensor and the strand cutter being coupled through a control unit activating the strand cutter with a delay corresponding to the processing time of the number of sticks after the stock sensor no longer detects sticks at the aforementioned level. In this way it is possible to let the machine make a certain number of supply and moulding actions related to the stock when it has been established in an automatic manner that a certain stock of sticks is left. The strand cutter is then activated, so that no more lollipop material is supplied to the moulds. The portion of the strand situated upstream of the strand cutter and the supply rollers then immediately comes to a standstill, and after filling the stock of sticks can simply manually be brought into engagement with the supply rollers.

On the other hand it may occur that sticks are dispensed without lollipop material being present in the moulds. In order to prevent this from happening a device for manufacturing lollipops is provided with a stock of lollipop sticks and a closing means for the stock, and with a strand sensor at the location of the supply for detecting a strand, the closing means and the strand sensor being coupled through a control unit activating the closing means with a delay corresponding to the passage time of the portion or length of strand between the closing means and the strand sensor. The dispensing of sticks can thus be actively controlled, adjusted to the feed of the strand.

After the lollipops have been removed from the moulds they have to be transferred to the actual packaging machine.

5 It is a further object of the invention to provide a smoothly working means to that end, with which the lollipops of any shape can be transferred from a moulding drum to a packaging conveyor. According to a further aspect of the invention the drum is provided with transverse slits for accommodation of the lollipop sticks, stationary stick lifters being placed in a track of the drum where the moulds are closed and the sticks have been pressed into
10 the lollipop mass, which stick lifters are positioned for transferring the sticks by means of gravitational force to a lollipop transfer drum placed near it and provided with recesses for the sticks for transferring the lollipops to a packaging conveyor, the stick lifters merging into confinements extending along the circumference of the transfer drum for
15 keeping the sticks in the recesses.

Preferably the packaging conveyor is provided with stick clamps, and an outwardly spring-biassed transfer means is placed between the transfer drum and the conveyor, which transfer means urges the sticks out of the
20 recesses on the transfer drum into the clamp of the conveyor. As a result the sticks are transferred in a reliable manner.

It is known to package lollipops in a sandwich foil packaging device by means of a packaging conveyor having a supply for an upper foil and a
25 lower foil, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals. It is furthermore known to make the longitudinal seal and the transverse seal with one
30 single pair of rollers and then to cut the foils by means of a pair of blade rollers. This requires a near-perfect fit of the lollipops in the seal rollers, which is not often realised. Alternatively a pair of rollers is used for the

longitudinal seal, a pair of rollers for the transverse seal and then a pair of blade rollers. However, this requires more space.

5 A further object of the invention is to improve on this to which end -from yet another aspect- the means are provided for making the transverse seals and the separation means are provided on the same pair of first rollers, cooperating with each other and placed on either side of the path of movement of the lollipops and foils, and in which the means for making longitudinal seals are provided on a second pair of rollers, placed upstream
10 of the first pair of rollers.

In common packaging machines for sandwich packagings the seal and cutting rollers are difficult to reach in case of repairing failures and maintenance, because the conveyor for the sticks runs along the front. It is a
15 further object of the invention to improve on this, to which end according to yet a further aspect a packaging conveyor is provided having a supply for an upper foil and a lower foil, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the
20 lollipops, with means for separating the foils at the location of the transverse seals, the packaging conveyor being provided with a circulating body having holders for the lollipop sticks, as well as a drive for it, the circulating body being arranged on a frame which is movable between a position adjacent to the sealing means for cooperation therewith, and a
25 removed position in which the sealing means are freely accessible.

Preferably the frame is pivotable about an axis coinciding with the drive of the circulating body, so that for the drive in view of tilting no complex provisions have to be made.

30 From a further aspect the invention provides a method for making flat lollipops having a filling, a strand of lollipop material being supplied to a

circulating series of moulds, comprising a circulating series of fixed lower moulds and circulating along with them a series of upper moulds that can be opened and closed, while cutting off the leading portion of the strand necessary for the lollipop in question, the strand being supplied flat,
5 preferably in a direction situated in a plane parallel to the plane of circulation.

Preferably the flat strand of lollipop material comprises an enveloped filling.

10 Preferably the lower moulds move according to a path of moulding and the strand is introduced according to an introduction path which is at an acute angle to the path of moulding, considered in a plane parallel to the path of moulding, preferably according to a circular path.

15 Preferably each upper mould is provided by two consecutive upper mould members, which one after the other are brought into closing engagement with the lower mould in question, the cutting off of the strand taking place by means of cooperating cutting edges at both the consecutive upper
20 mould members and the lower mould, the cooperating cutting edges being provided with discontinuities formed in the plane of the cutting motion.

Preferably the lower moulds during reception of the leading portion of the strand are kept tilted, preferably tilted backwards, with respect to the path of moulding.

25 From a further aspect the invention provides a lollipop having a flat confectionery part and a stick, the confectionery part being provided with a filling enveloped all round.

30 Preferably the filling has a similar shape as the confectionery part.

The invention will be elucidated on the basis of an exemplary embodiment

shown in the attached drawings, in which:

Figure 1 shows a schematic view of an exemplary embodiment of a device according to the invention;

5

Figure 1A shows a detail of the drum of figure 1, with additional stock of sticks;

Figure 1B-D show an upper mould in cross-section and in bottom view;

10

Figure 2A shows an end view of a fold-out of a series of consecutive moulds;

Figure 2B shows an assembly of an upper mould and lower mould while being closed;

15

Figure 2C-E show some stages of the moulding process on a device according to the invention;

20 Figure 3 shows a flat lollipop according to the invention;

Figure 4 shows a schematic front view of a device according to the invention;

25 Figure 4A and 4B show a detail at the location of the transfer location of sticks in the device of figure 4; and

Figure 5 shows a schematic view of the increase of accessibility of a packaging device in the device according to the invention.

30

The device 1 shown in figure 1 is a combined machine for manufacturing and packaging flat lollipops, in which the flat lollipops cannot only be

moulded but can also be packaged. The device 1 comprises a drum 2, which circulates in the direction B, and is provided with a circumferential series of moulds 3 for manufacturing flat-filled lollipops L (figure 3), which moulds 3 are formed by a circulating continuous series of lower moulds 3a, and a series of upper moulds 3b, each arranged staggered half a pitch with respect to the lower moulds 3a and hinging about an own tangential axis T. The folding down of the upper moulds 3b towards the lower moulds 3a and lifting them up again takes place in a controlled manner by means of permanent guides, such as guides 41, 42 (figure 1A), positioned along the circumference of the drum 2.

On the outside of the drum wall 10, as considered in axial direction on either side of the lower moulds 3a, aligned therewith, axially oriented channels have been arranged, and namely wide channels 8 at the side of the lower mould 3a near the hinge of the upper mould members 3b, and in which mould press pin 7 is axially slidable, which mould press pin 7 is shaped similar to the mould cavity 3 formed by the members 3a, 3b, as well as narrow grooves 11, in which sticks 9 coming from a stick holder 40 yet to be discussed are axially slidable, in order to when the moulds are closed be pressed into the mould mass L. It will be understood that although they are not shown, means are present for moving the press pins 7 and the sticks 9 that are known per se in machines for manufacturing round lollipops.

The upper moulds 3b are more clearly shown in figures 1B-D, formed for use on a drum provided with lower moulds. The upper moulds 3b are at one end provided with an upright plate 110, in which a hinge hole 111 has been made. The rib 44 which separates both mould members has a high part and a low part, separated from each other by step 33b. At the other end the mould members are ended by a smoothly curved plane 113 and 114. In cross-section of figure 1B it can be seen that the mould members connect to the rib 44 by curved planes. As a result of the curvature of the

drum and the tilted orientation of the consecutive lower moulds as a result of said curvature, the straight upper planes for both mould members are tilted with respect to each other.

5 At the upstream side of the mould drum 2 there is a U-shaped supply gutter 4 which is permanently positioned on the machine 1 by means of means that are not further shown. Permanent to the machine as well are drive rollers 5a, 5b driven by drive means that are not further shown, for driving a flat strand S of confectionery for manufacturing lollipops in the direction A. Upstream from the drive rollers 5a, 5b there is a cutting mechanism 6a, 6b for cutting through the strand S with filling V.

At the downstream side of the mould drum 2 there is transfer disk 14, which (see figure 4) has been provided with accommodation spaces 15 in which sticks 9 are snugly accommodated. For keeping the sticks in the accommodation spaces 15 one or more guide plates 16 are provided, which with their edge 17 facing the disk 14 are situated at the short distance, suitable to that end, from the circumferential edge of the disk 14. The disk 14 is driven in the direction C. Between the drum 2 and the disc 14 there is a guide 70, which extends within the circumference of the drum edge 10 in the path of the sticks 9 in order to urge the sticks 9 out of the grooves 11 and into the accommodation spaces 15.

When the lollipops should not be packaged or packaged elsewhere, a collection tray can easily be placed on -and in- the location of the transfer disk 14 and its accompanying means.

In order to prevent that material of the lollipops L sticks to the lower moulds 3a at the level of the transfer disk 14 or, when said disk is absent, at the location of the -falling- discharge to a collection tray, at the lower track of the drum 2, a kind of chisel 93 is positioned in a fixed stationary manner, which chisel has a tip 94 which is oriented opposite the flow,

which extends up to near the path of the ribs 30. Special is that (see figure 2A) the moulds formed by members 3a, 3b are at an angle α to the tangential to the drum, and such that the main planes incline upwards in direction of movement. As a result the thickness of the lollipop material just downstream of the rib 30 is smaller than is the case on the trailing areas. The tip 94 will therefore be quick and effective in realising sufficient lifting force on the lollipop material that keeps sticking in the lower mould 3a. In this way it is almost ruled out that still filled lower moulds 3a are guided past the location where the strand S is supplied, and a failure would otherwise arise due to double material.

In downstream process direction, the transfer disk 14 connects to the packaging machine 20, which machine 20 comprises means that are not further shown for supplying packaging foil webs 80a, 80b, and the conveyor 90 shown in figure 4, which comprises an endless, circulating chain 21, on which stick clamps 24 that are known per se have been arranged, and which circulates in the direction D about rollers 22 and 23, the roller 22 being driven.

The clamps 24 consist of a first clamp 24a and a second clamp 24b, which clamp 24a is rotatable about an axis Y between an open position and a clamping position, and which is spring-biased towards the clamping position, and for opening is provided with an arm 24c which is operable by means of stationary means on the packaging machine in a manner known per se not shown.

At the location of the transition between the disk 14 and the conveyor 90 a plate-shaped stick lifter 18 is arranged, which by means of a spring means 19 provided at the location of the suspension in its device is spring-biased towards the conveyor 90 with respect to the stationary parts of the machine 1. The plate 18 is provided with a recess 18b extending inwardly from the edge 18a, which recess extends in the plane of cir-

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culatation of the clamps 24. The leading head plane 24d of the clamping member 24a may as a result urge the plate 18 upwards against the spring tension and then runs through the recess 18c, whereas the stick runs up on plane 18a.

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Because of the tip 18a running up, sticks 9 are urged out of the accommodation spaces 15, just downstream of the end of the edge 17, to urge the sticks 9 into the open clamps 24 after which the clamp 24a is immediately closed. While being urged out of the accommodation spaces 15 the sticks are supported by plane 16a of the plate (or plates) 16. Because the plate 18 and thus the tip 18a are spring-biassed towards the clamp 24, the stick 9 remains in contact with the plane 16a, and the movement of the stick 9 is perfectly controlled during transfer to the clamp 24.

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15 In the front view of figure 4, the conveyor 90 is positioned before the pairs of rollers 50 and 60 shown in figure 1. Said pairs of rollers 50a, b and 60a,b are driven in the directions E1, E2 and F1, F2, respectively. The rollers 50a,b have cavities 51 and grooves 52 for accommodating lollipops L with sticks 9 in between them. By means of seal profiles 53, 54 the foil webs 80a,b introduced immediately upstream are provided with longitudinal seals. The cavities 51 may also form a channel which is continuous in circumferential direction.

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The rollers 60a,b are provided with ribs in between which transverse cavities 64 have been arranged. The ribs on roller 60a have two heated strips 61, and the same goes for the ribs on the roller 60b. The ribs 60a, however, have an anvil strip 63 between the heated strips, whereas on the roller 60b a cutting strip 62 cooperating therewith is present. The rollers 60a,b therefore arrange both a transverse seal in the combined foil web 80a,b and cut it through. Just after that the downstream end of the conveyor 90 is situated where means are provided that are not further shown for opening the clamps 24, so that the completed and packaged

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lollipops can be dispensed in the direction G in a collection tray that is not further shown.

Particular furthermore is, as illustrated in figure 5, that the conveyor 90 is
5 tiltable in the direction I and back again, about a centre line coinciding with the pivot centre line 21 of the driven roller 22. After the tilting downward of the conveyor 90 the rollers 50, 60, positioned behind it, are easily accessible for repair and replacement activities, as well for repairing failures. After that the conveyor 90 can be swivelled back and secured in
10 the operational position.

Below the moulding of the lollipops L with filling V will be gone into.

In figure 2A the curved drum wall is shown stretched flat for illustrative
15 purposes, whereas the strand S has also been left out. However, some filled moulds have been shown. Also referring to figures 1 and 1A, the strand S is supplied over the gutter 4, while the upper mould members 3b tilt downwards with their cams 43 over guide 41, towards the drum 10, engaged by the guide 42 at the upper side. As shown in figure 2A the
20 upper mould members 3b are therefore urged downwards in direction H. The upper mould members 3b are provided with mould surface 45a and mould surface 45b, that are complementary to each other yet belong to consecutive lower moulds 3a. They have been separated from each other by means of sharp rib 44 which cooperates with rib 30 which is situated
25 between consecutive lower moulds 3a, in order to cut through the strand S at that location.

In figure 2B, the situation of the moulds during the folding down of the upper mould 3b is shown. The end 112 of the upper mould 3b is here
30 guided by the rods 41 and 42 (also see figure 1A). It can be seen that the rib 30 has an elevated portion 31 and a recessed portion 32, separated from each other by a raised step 33. The rib 44 is shaped complementary

to it. By means of the step 33 an upright, sharp discontinuity is formed, as a result of which not only the cutting action between the ribs 30 and 44 during closing the moulds 3 is strongly improved, but also in the continued process; as will be explained, the fleece S' which in practice proved difficult to cut through perfectly, can always be cut through entirely, which results in the lollipops L being entirely separated from each other.

The pressing of the mould members 3b onto the mould members 3a takes place by means of a permanent pressing guide 12 (figure 1) placed along the circumference. During said pressing, first the press pins 7 are pressed into the mould, and after that the sticks 9.

The ribs 44 and 30 merge into the flat surfaces 45a, 45b, and so on, via convex edge surfaces. As a result the filling V present in the strand S is also separated, while also forming a layer of shell material M from the strand. The result is that the lollipop L has a filling V, to all sides enveloped by shell material M (figure 3).

In figures 2C-E the process of the actual forming of the lollipops L is shown. In figure 2B the situation at the moment immediately after closing the mould 3 is shown. The cut off leading portion S' of the strand S, which possibly is still connected to the rest of the strand S via a fleece, and is accommodated in the mould 3, is situated between the steps 33a,b and the left end of the mould 3. The press pin 7 is then urged to the right, and pushes the lollipop mass S' to the right, in the mould cavity. The possible fleece also moves along here, so that portion S' and fleece move along the steps 33a,b see figure 2D. Simultaneously from the opposite direction a lollipop stick 9 is urged into the mould cavity, in the oncoming lollipop mass S'. Finally the situation shown in figure 2E is achieved, in which the lollipop mass S' pressed into shape, in a reliable manner is entirely separate, so without fleece, from the rest of the strand or the next lollipop mass S' in the next mould. As a result smooth lollipops in the moulds 3 are

obtained, which can moreover be removed from them in a reliable manner.

In figure 1A a stock 40 of sticks is furthermore shown, which is known per se. New is that at a certain level a sensor 47 has been placed which is able to detect that there are no more sticks present at that level. A central control unit for the device 1 (see figure 1) which receives signals from the sensor 47 via the line 101 may then, or after a certain delay, operate the blade 6a, 6b to cut through the strand S. The strand S is then moved towards the drum 2 as long as it is in engagement with the equalizing and drive rollers 5a, 5b. The remaining stock related to the level of sensor 47, the supply speed of the strand S and the location of the drive rollers 5a, 5b with respect to the discharge/exit of the stock of sticks have been entered in the control unit 100.

In figure 1 a sensor 48 is furthermore shown which via line 102 is connected to the central control unit 100 and is permanently placed in the device 1 for detecting the presence of the lollipop strand S. Furthermore, as schematically shown in figure 1A, the stock of sticks 40 is provided with a closing means 49, which via line is connected to the central control unit 100. When the sensor 48 detects the absence of strand S, the control unit 100 is informed of this. Said unit is programmed to then activate the closing means 49 via line 103, taking into account the time the trailing end of the strand S needs to arrive in the moulds 3.

Claims

1. Device for manufacturing lollipops, comprising a stationary supply for a strand of lollipop material in flat cross-section condition, a series of flat lollipop moulds movable past the supply according to a path of movement, the lollipop moulds having a main axis and each consisting of a lower mould and an upper mould, which can be closed onto the lower mould while cutting off a leading portion of the strand, the supply being positioned for discharge of the strand in a direction transverse to the main axis.
2. Device according to claim 1, the moulds, considered in cross-sectional plane transverse to the main axis, being inclined with respect to the path of movement.
3. Device according to claim 2, the moulds with their in process direction leading edges being situated at a higher level than their in process direction trailing edges.
4. Device according to claim 1, 2 or 3, furthermore provided with a stationary scraper extending from the upstream side to just above the boundaries of the lower moulds.
5. Device according to any one of the preceding claims, the upper moulds each being defined by connecting portions of two adjacent upper mould members, which are closable in succession onto the lower mould while cutting off a leading portion of the strand, the upper mould members being

arranged staggered over half a mould width with respect to the lower moulds, the upper mould members being provided with a first separation rib oriented towards the lower mould, and the lower moulds being separated from each other by means of a second separation rib, which is positioned for closing contact with the first separation rib, the upper mould members being tiltable about an axis transverse to the main axis of the lollipop mould from an open position to a closing position and the separation ribs being capable of performing a cutting action with each other on the strand, the first and second separation ribs in the direction of the main axis being provided with corresponding, vertical discontinuities, such as steps.

6. Device according to claim 5, the discontinuity forming a step oriented perpendicular to the main axis.

7. Device according to claim 6, the discontinuity forming a step forming a cutting side which is substantially tangential with respect to the tilting path of the upper moulds.

8. Device according to claim 6 or 7, the discontinuity forming a tip.

9. Device according to claim 6, 7 or 8, in the usual manner provided with means active away from the tilting axis for pressing in the lollipop mass in the mould in the direction of the main axis, the second separation rib forming a step oriented away from the tilting axis.

10. Device according to any one of the claims 5-9, the discontinuity being situated approximately halfway the main axis of the mould.

11. Device according to any one of the claims 5-10, the separation ribs being formed smoothly concave.

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12. Device according to any one of the claims 5-11, the second separation rib comprising a low portion and a high portion separated by the discontinuity.

5 13. Device according to claims 3 and 12, the scraper extending into the path of lower positioned portion of the second separation rib.

10 13. Device according to any one of the preceding claims, the upper and lower moulds being sidewardly limited by rounded off edges extending in the direction of the main axis, which edges merge into the first and second separation ribs, respectively.

15 14. Device according to any one of the preceding claims, furthermore provided with means for pressing the mass of the leading portion of the strand accommodated in the mould in the direction of the main axis, as well as with means for urging a lollipop stick into the mass in an opposite direction.

20 15. Device according to any one of the preceding claims, the moulds being arranged on a drum, the lower moulds being a part of the surface of the drum.

25 16. Device according to any one of the preceding claims, furthermore provided with a stock of lollipop sticks and a stock sensor for detecting the sticks in stock at a certain recognizable level related to a number of sticks in stock, the supply comprising supply rollers active on traction for the strand, as well as a strand cutter positioned upstream of it, the stock sensor and the strand cutter being coupled through a control unit activating the strand cutter with a delay corresponding to the processing time of the
30 number of sticks after the stock sensor no longer detects sticks at the aforementioned level.

17. Device according to any one of the claims 1-15, furthermore provided with a stock of lollipop sticks and a closing means for the stock, and with a strand sensor at the location of the supply for detecting a strand, the closing means and the strand sensor being coupled through a control unit activating the closing means with a delay corresponding to the passage time of the portion or strand length situated between the closing means or the point of discharge of the sticks to the lollipop moulds and the strand sensor.

18. Device according to claim 15, the drum being provided with transverse slits for accommodation of the lollipop sticks, stationary stick lifters being placed in a track of the drum where the moulds are closed and the sticks have been pressed into the lollipop mass, which stick lifters are positioned for transferring the sticks by means of gravitational force to a lollipop transfer drum placed near it and provided with recesses for the sticks for transferring the lollipops to a packaging conveyor, the stick lifters merging into confinements extending along the circumference of the transfer drum for keeping the sticks in the recesses.

19. Device according to claim 18, the packaging conveyor being provided with stick clamps, and an outwardly spring-biassed transfer means being placed between the transfer drum and the conveyor, which transfer means urges the sticks from the recess on the transfer drum into the clamp of the conveyor.

20. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having means for, while enclosing the lollipops, bringing an upper foil and a lower foil towards each other, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the means for making the

transverse seals and the separation means being provided on the same first pair of cooperating rollers, placed on either side of the path of movement of the lollipops and foils, and means for making longitudinal seals being provided on a second pair of rollers placed upstream from the first pair of rollers.

21. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having a supply for an upper foil and a lower foil, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the packaging conveyor being provided with a circulating body having holders for the lollipop sticks, as well as a drive for it, the circulating body being arranged on a frame which is movable between a position adjacent to the sealing means for cooperation therewith, and a removed position in which the sealing means are freely accessible.

22. Device according to claim 21, the frame being pivotable about an axis coinciding with the drive of the circulating body.

23. Method for making flat lollipops having a filling, a strand of lollipop material being supplied to a circulating series of moulds; comprising a circulating series of fixed lower moulds and circulating along with them a series of upper moulds that can be opened and closed, while cutting off the leading portion of the strand necessary for the lollipop in question, the strand being supplied flat, preferably in a direction situated in a plane parallel to the plane of circulation.

24. Method according to claim 23, the flat strand of lollipop material comprising an enveloped filling.

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25. Method according to claim 23 or 24, the lower moulds moving according to a path of moulding and the strand being introduced according to an introduction path which is at an acute angle to the path of moulding, considered in a plane parallel to the path of moulding.

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26. Method according to claim 25, the lower moulds moving according to a circular path.

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27. Method according to claim 24, 25 or 26, the lower moulds during accommodation of the leading portion of the strand being kept tilted, preferably tilted backwards, with respect to the path of moulding.

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28. Method according to claim 27, each upper mould being provided by two consecutive upper mould members, which one after the other are brought into closing engagement with the lower mould in question, the cutting off taking place by means of cooperating cutting edges at both the consecutive upper mould members and the lower mould, the cooperating cutting edges being provided with discontinuities formed in the plane of the cutting motion.

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29. Lollipop having a flat confectionery part and a stick, the confectionery part being provided with an filling enveloped all round.

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30. Lollipop according to claim 28, the filling having a similar shape as the confectionery part.

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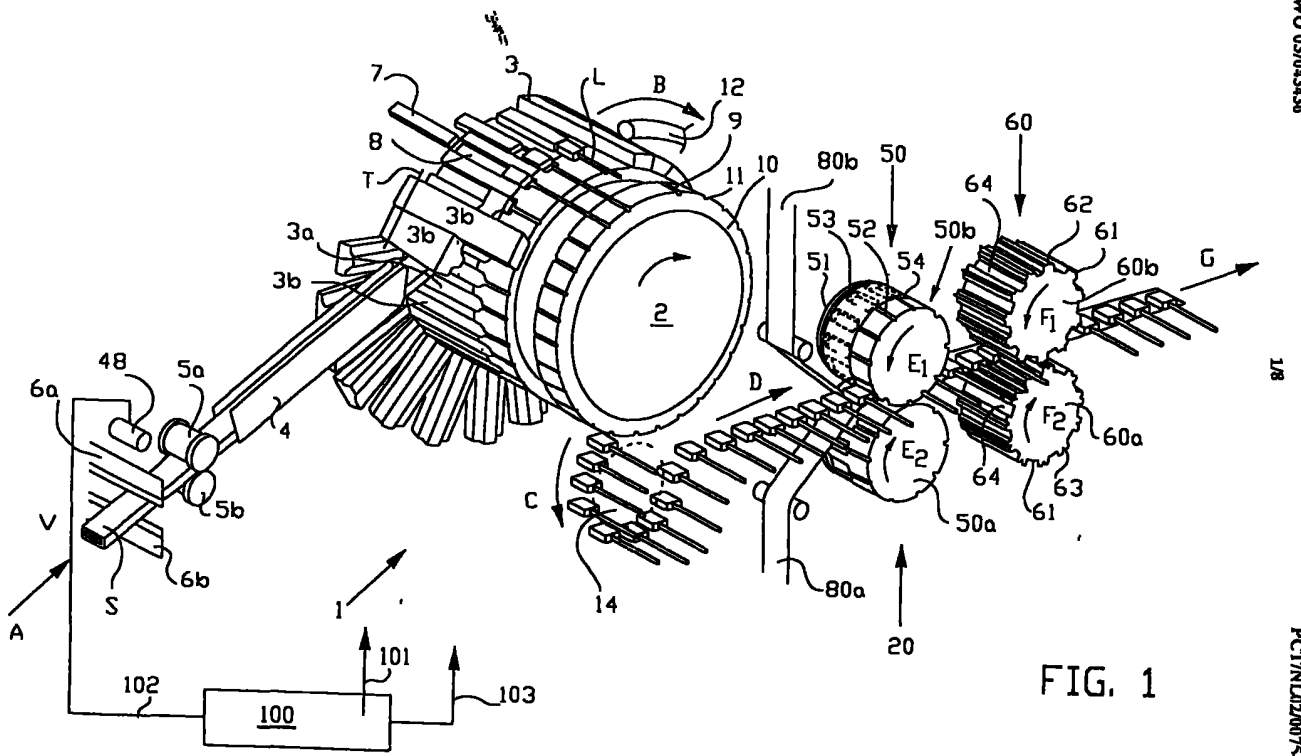
31. Device provided with one or more of the characterizing measures described in the attached description and/or shown in the attached drawings.

32. Assembly provided with one or more of the characterizing measures described in the attached description and/or shown in the attached

drawings.

33. Method comprising one or more of the characterizing steps described in the attached description and/or shown in the attached drawings.

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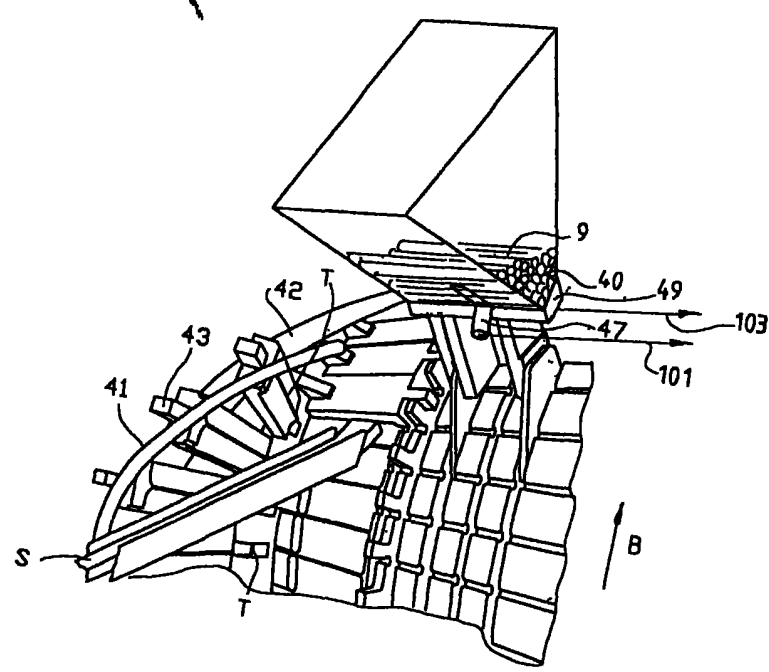
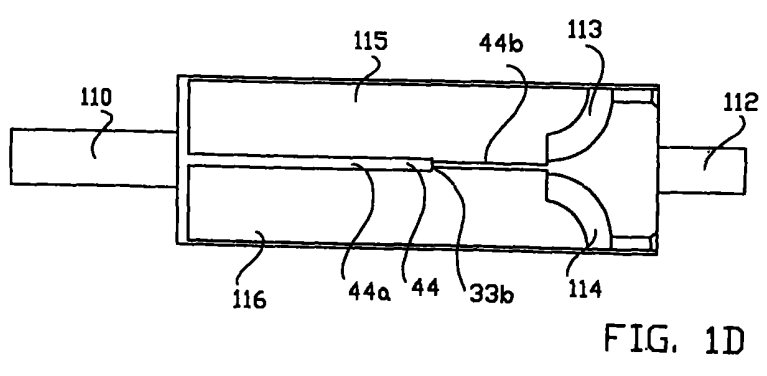
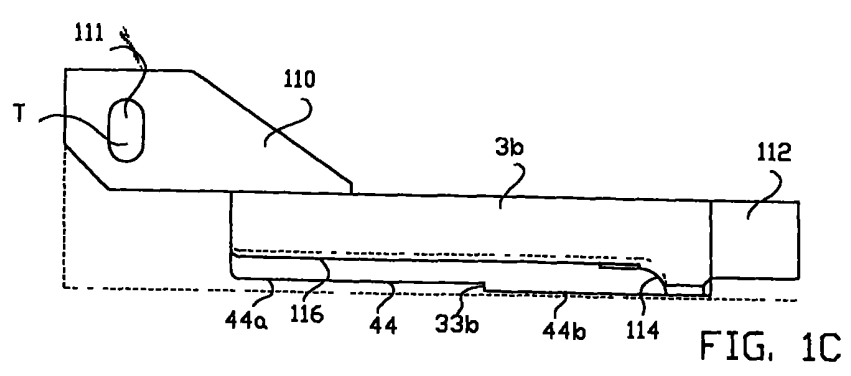
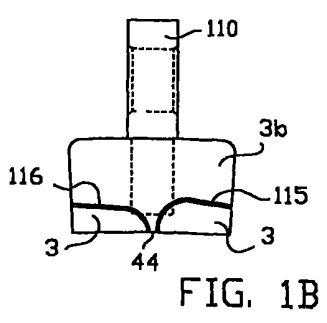


FIG 1A

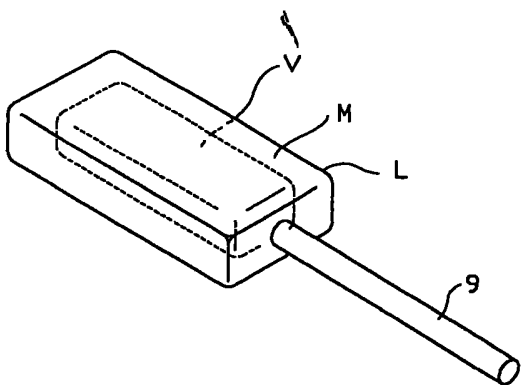
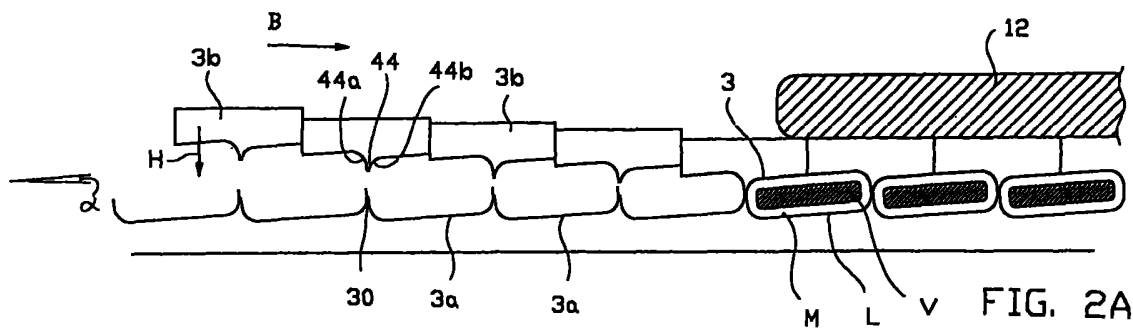
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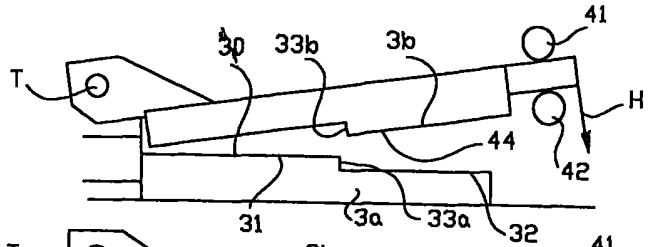


FIG. 2B

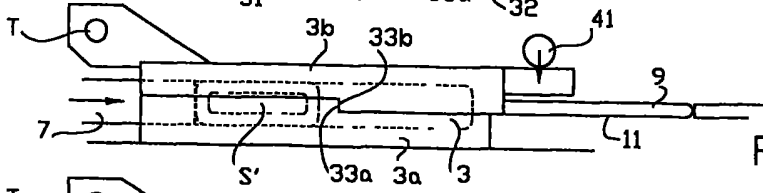


FIG. 2C

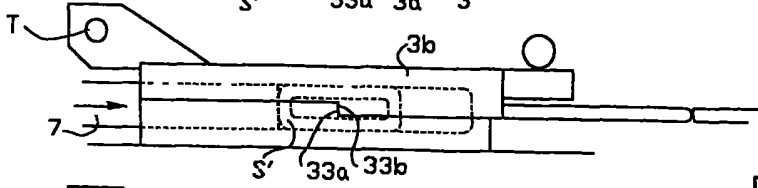


FIG. 2D

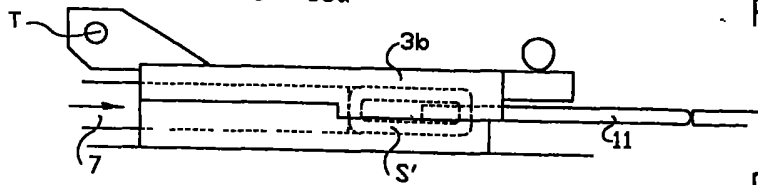


FIG. 2E

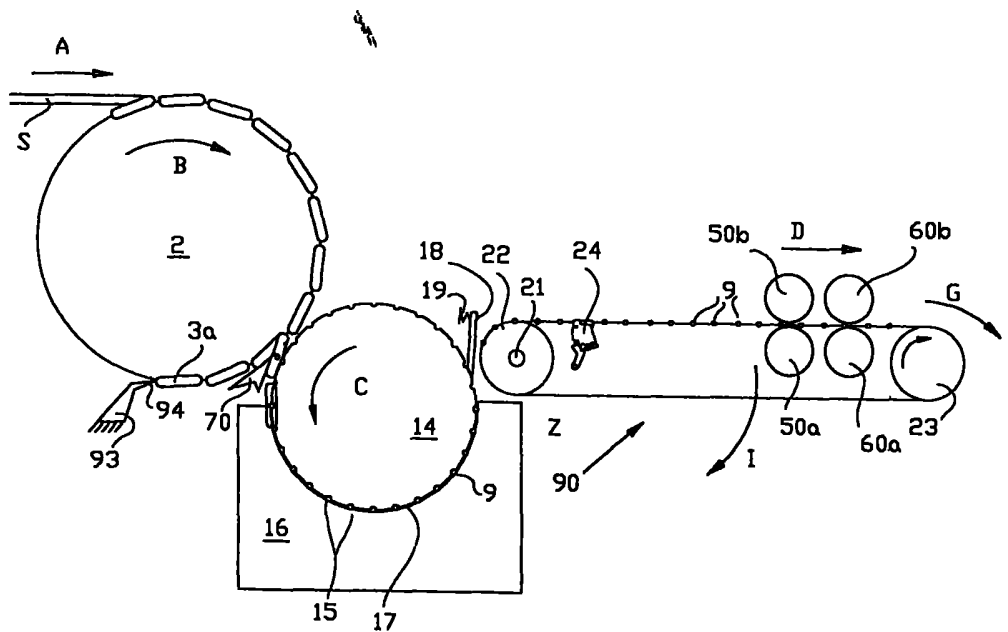
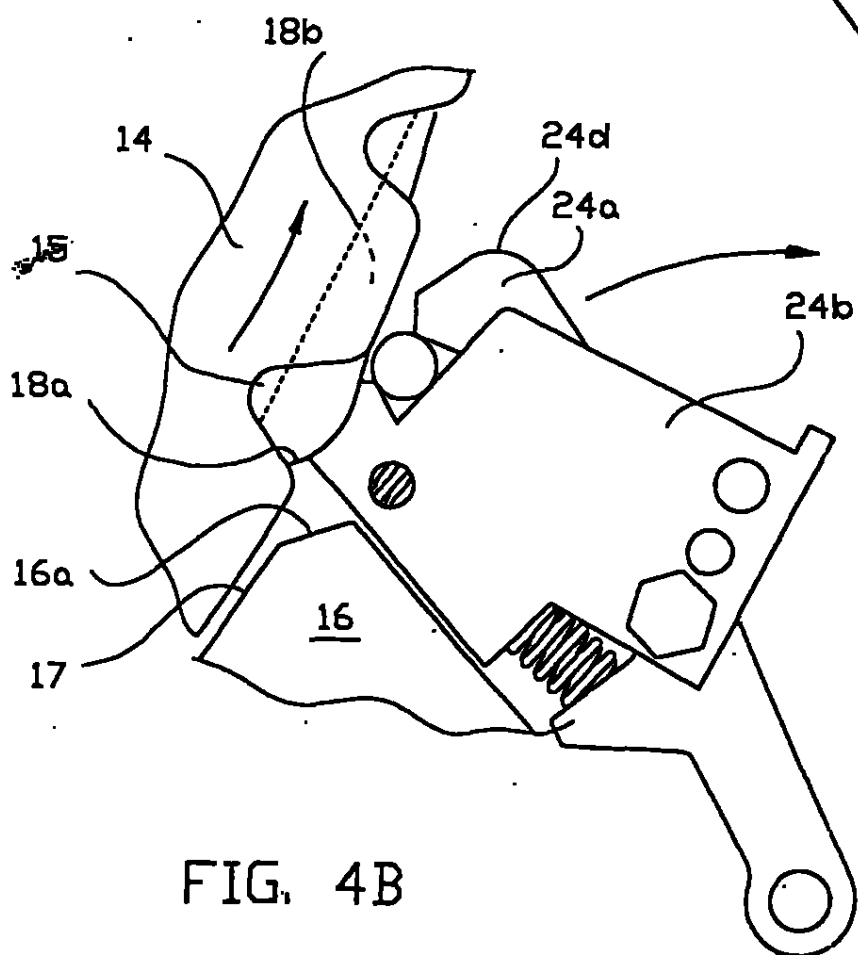
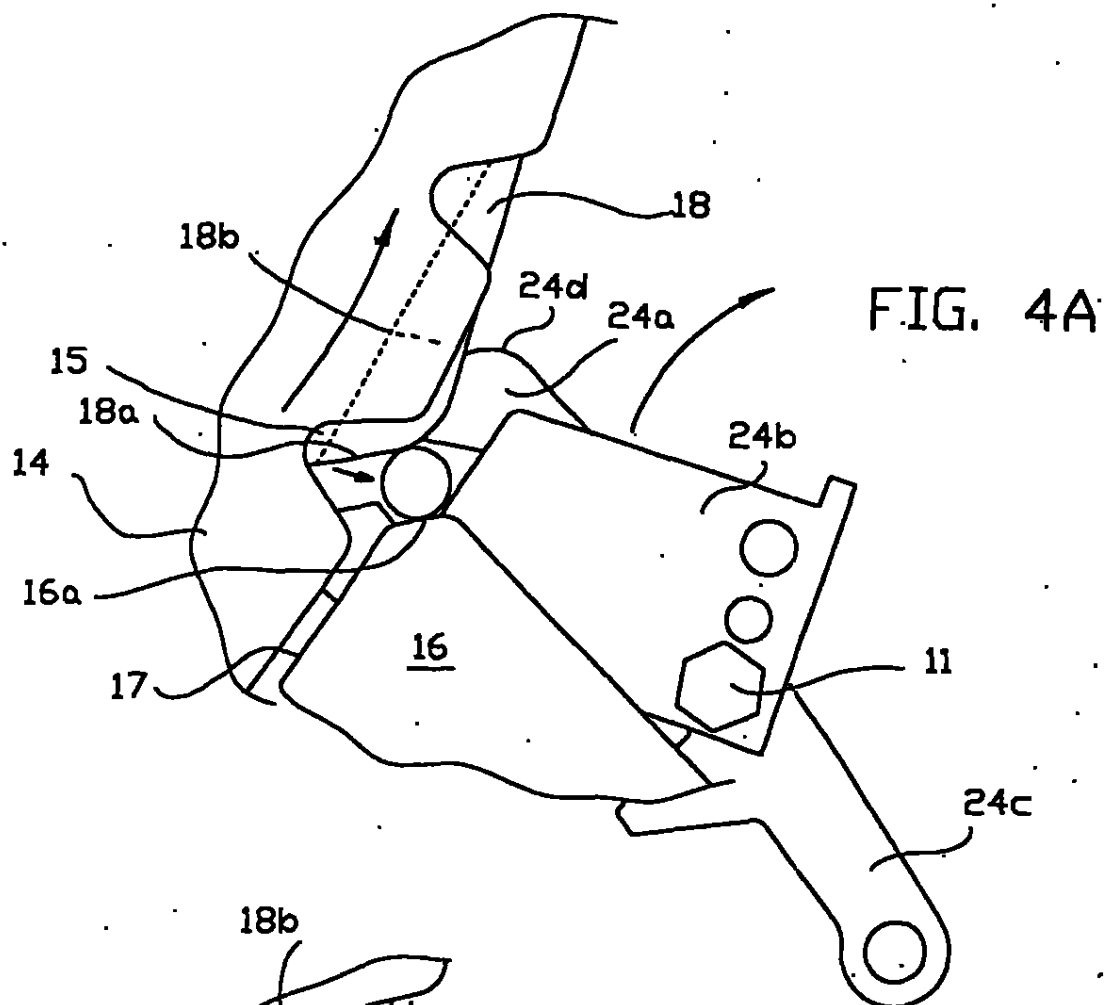


FIG. 4

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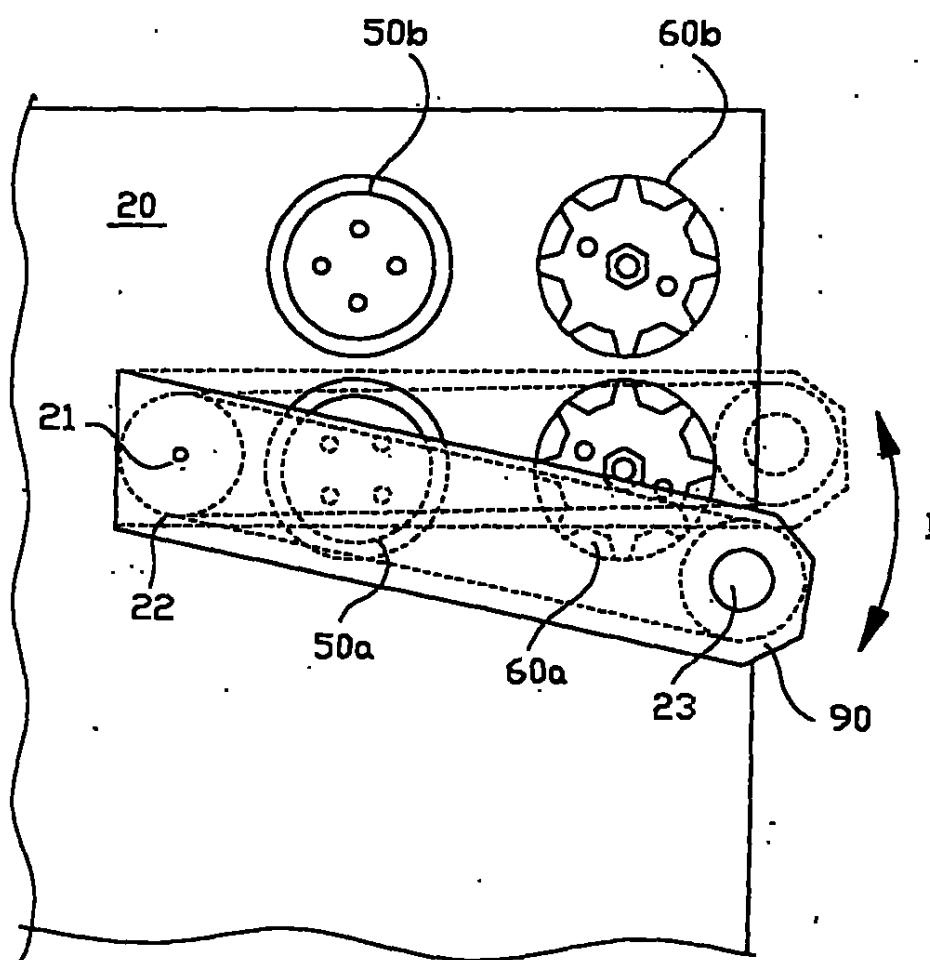


FIG. 5

INTERNATIONAL SEARCH REPORT

In **nal Application No**
PC1/NL 02/00754

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A23G3/20 A23G3/02		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) IPC 7 A23G		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the International search (name of data base and, where practical, search terms used) EPO-Internal, PAJ, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 022 841 A (RIZZI FRANCESCO) 11 June 1991 (1991-06-11) the whole document	1,23-25, 29-33 2,3, 24-27
Y	DE 223 087 C (R. GABEL) 21 October 1909 (1909-10-21) claim 1; figure	2,3, 24-27
X	US 4 847 090 A (PIANO ANTHONY P ET AL) 11 July 1989 (1989-07-11) figures 11-15	1,23-26
Y		28,29, 31-33
-/-		
☒ Further documents are listed in the continuation of box C. ☒ Patent family members are listed in annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "S" document member of the same patent family		
Date of the actual completion of the international search 17 February 2003	Date of mailing of the international search report 22/04/2003	
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel (+31-70) 340-2040, Tx. 31 851 apo nl, Fax (+31-70) 340-3015	Authorized officer Guyon, R	

INTERNATIONAL SEARCH REPORT

Int. Application No
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Fr. v.d. 3.13.
27 NOV. 2002

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only	
International Application No.	
International Filing Date	
Name of receiving Office and "PCT International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum) PCTP167575A	

Box No. I TITLE OF INVENTION Inrichting en werkwijze voor het maken en verpakken van lolly's	
Box No. II APPLICANT ☐ This person is also inventor	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.) CFS WEERT B.V. De Fuus 8 6006 RV WEERT The Netherlands	Telephone No. Facsimile No. Teleprinter No. Applicant's registration No. with the Office
State (that is, country) of nationality: The Netherlands (NL)	State (that is, country) of residence: The Netherlands (NL)
This person is applicant for the purposes of: ☐ all designated States ☒ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this box is the applicant's State (that is, country) of residence if no State of residence is indicated below.) ASMA, Seferinus Jelle Van Vroonhovenlaan 1A 5503 CM VELDHOVEN The Netherlands	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only (If this check-box is marked, do not fill in below.) Applicant's registration No. with the Office
State (that is, country) of nationality: The Netherlands (NL)	State (that is, country) of residence: The Netherlands (NL)
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box	
☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.	
Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE	
The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: ☐ agent ☐ common representative	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) FERGUSON, Alexander c/o Octrooibureau Vriesendorp & Gaade P.O. Box 266 2501 AW THE HAGUE The Netherlands	Telephone No. +31 70 3614721 Facsimile No. +31 70 3646793 Teleprinter No. Agent's registration No. with the Office
☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.	

Continuation of Box No. III. FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)	
<i>If none of the following sub-boxes is used, this sheet should not be included in the request:</i>	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i> DER KINDEREN, Henricus Antonius Maria Bergstraat 54 5931 CE TEGELEN The Netherlands	This person is: ☐ applicant only ☒ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality: The Netherlands (NL)	State <i>(that is, country)</i> of residence: The Netherlands (NL)
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☒ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i>	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality:	State <i>(that is, country)</i> of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i>	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality:	State <i>(that is, country)</i> of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
Name and address: <i>(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)</i>	This person is: ☐ applicant only ☐ applicant and inventor ☐ inventor only <i>(If this check-box is marked, do not fill in below.)</i> Applicant's registration No. with the Office
State <i>(that is, country)</i> of nationality:	State <i>(that is, country)</i> of residence:
This person is applicant for the purposes of: ☐ all designated States ☐ all designated States except the United States of America ☐ the United States of America only ☐ the States indicated in the Supplemental Box	
☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.	

Box No. V DESIGNATION OF STATES *Mark the applicable check-boxes below; at least one must be marked*

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, MZ Mozambique, SD Sudan, SL Sierra Leone, SZ Swaziland, TZ United Republic of Tanzania, UG Uganda, ZM Zambia, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT (if other kind of protection or treatment desired, specify on dotted line)
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, BG Bulgaria, CH & LI Switzerland and Liechtenstein, CY Cyprus, CZ Czech Republic, DE Germany, DK Denmark, EE Estonia, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, SK Slovakia, TR Turkey, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GQ Equatorial Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line)

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | | |
|---|--|--|
| ☒ AE United Arab Emirates | ☒ GM Gambia | ☒ NZ New Zealand |
| ☒ AG Antigua and Barbuda | ☒ HR Croatia | ☒ OM Oman |
| ☒ AL Albania | ☒ HU Hungary | ☒ PH Philippines |
| ☒ AM Armenia | ☒ ID Indonesia | ☒ PL Poland |
| ☒ AT Austria | ☒ IL Israel | ☒ PT Portugal |
| ☒ AU Australia | ☒ IN India | ☒ RO Romania |
| ☒ AZ Azerbaijan | ☒ IS Iceland | ☒ RU Russian Federation |
| ☒ BA Bosnia and Herzegovina | ☒ JP Japan | |
| ☒ BB Barbados | ☒ KE Kenya | ☒ SD Sudan |
| ☒ BG Bulgaria | ☒ KG Kyrgyzstan | ☒ SE Sweden |
| ☒ BR Brazil | ☒ KP Democratic People's Republic of Korea | ☒ SG Singapore |
| ☒ BY Belarus | ☒ KR Republic of Korea | ☒ SI Slovenia |
| ☒ BZ Belize | ☒ KZ Kazakhstan | ☒ SK Slovakia and Ut. Model |
| ☒ CA Canada | ☒ LC Saint Lucia | ☒ SL Sierra Leone |
| ☒ CH & LI Switzerland and Liechtenstein | ☒ LK Sri Lanka | ☒ TJ Tajikistan |
| ☒ CN China | ☒ LR Liberia | ☒ TM Turkmenistan |
| ☒ CO Colombia | ☒ LS Lesotho | ☒ TN Tunisia |
| ☒ CR Costa Rica | ☒ LT Lithuania | ☒ TR Turkey |
| ☒ CU Cuba | ☒ LU Luxembourg | ☒ TT Trinidad and Tobago |
| ☒ CZ Czech Republic and Ut. Model | ☒ LV Latvia | |
| ☒ DE Germany and Ut. Model | ☒ MA Morocco | ☒ TZ United Republic of Tanzania |
| ☒ DK Denmark and Ut. Model | ☒ MD Republic of Moldova | ☒ UA Ukraine |
| ☒ DM Dominica | ☒ MG Madagascar | ☒ UG Uganda |
| ☒ DZ Algeria | ☒ MK The former Yugoslav Republic of Macedonia | ☒ US United States of America |
| ☒ EC Ecuador | ☒ MN Mongolia | |
| ☒ EE Estonia and Ut. Model | ☒ MW Malawi | ☒ UZ Uzbekistan |
| ☒ ES Spain | ☒ MX Mexico | ☒ VN Viet Nam |
| ☒ FI Finland and Ut. Model | ☒ MZ Mozambique | ☒ YU Yugoslavia |
| ☒ GB United Kingdom | ☒ NO Norway | ☒ ZA South Africa |
| ☒ GD Grenada | | ☒ ZM Zambia |
| ☒ GE Georgia | | ☒ ZW Zimbabwe |
| ☒ GH Ghana | | |

Check-boxes below reserved for designating States which have become party to the PCT after issuance of this sheet:

- ☒ SC Seychelles
- ☒ VC Saint Vincent and the Grenadines

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation (including fees) must reach the receiving Office within the 15-month time limit.)

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Box No. VI PRIORITY CLAIM				
The priority of the following earlier application(s) is hereby claimed:				
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country or Member of WTO	regional application:* regional Office	international application: receiving Office
item (1) 21 November 2001	1019408	The Netherlands		
item (2)				
item (3)				
item (4)				
item (5)				
☐ Further priority claims are indicated in the Supplemental Box.				
The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of this international application is the receiving Office) identified above as:				
☐ all items ☒ item (1) ☐ item (2) ☐ item (3) ☐ item (4) ☐ item (5) ☐ other, see Supplemental Box				
* Where the earlier application is an ARIPO application, indicate at least one country party to the Paris Convention for the Protection of Industrial Property or one Member of the World Trade Organization for which that earlier application was filed (Rule 4.10(b)(ii)).....				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):				
ISA / <u>EP</u>				
Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):				
Date (day/month/year)	Number	Country (or regional Office)		
1 July 2002	SN 38465 NL	The Netherlands		
Box No. VIII DECLARATIONS				
The following declarations are contained in Boxes Nos. VIII (i) to (v) (mark the applicable check-boxes below and indicate in the right column the number of each type of declaration):				Number of declarations
☐ Box No. VIII (i)	Declaration as to the identity of the inventor			:
☒ Box No. VIII (ii)	Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent			1
☐ Box No. VIII (iii)	Declaration as to the applicant's entitlement, as at the international filing date, to claim the priority of the earlier application			:
☐ Box No. VIII (iv)	Declaration of inventorship (only for the purposes of the designation of the United States of America)			:
☐ Box No. VIII (v)	Declaration as to non-prejudicial disclosures or exceptions to lack of novelty			:

Box No. VIII (ii) DECLARATION: ENTITLEMENT TO APPLY FOR AND BE GRANTED A PATENT

The declaration must conform to the standardized wording provided for in Section 212; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (ii). If this Box is not used, this sheet should not be included in the request.

Declaration as to the applicant's entitlement, as at the international filing date, to apply for and be granted a patent (Rules 4.17(ii) and 51 bis.1(a)(ii)), in a case where the declaration under Rule 4.17(iv) is not appropriate:

in relation to this international application CFS Weert B.V. is entitled to apply for and be granted a patent by virtue of the following:

i) ASMA, Seferinus Jelle of Van Vroonhovenlaan 1A - 5503 CM VELDHOFEN
The Netherlands, and

DER KINDEREN, Henricus Antonius Maria of Bergstraat 54 - 5931 CE TEGELEN
The Netherlands

are the inventors of the subject matter for which protection is sought by way of this international application.

ii) CFS Weert B.V. is entitled as employer of the inventors:

ASMA, Seferinus Jelle
DER KINDEREN, Henricus Antonius Maria

ix) this declaration is made for the purposes of all designations (except the designation of the United States of America)

☐ This declaration is continued on the following sheet, "Continuation of Box No. VIII (ii)".

Box No. IX CHECK LIST; LANGUAGE OF FILING

This international application contains:

(a) the following number of sheets in paper form:

request (including declaration sheets) : 6
 description (excluding sequence listing part) : 10
 claims : 6
 abstract : 1
 drawings : 0

Sub-total number of sheets : 39

sequence listing part of description (actual number of sheets if filed in paper form, whether or not also filed in computer readable form; see (b) below) :

Total number of sheets : 39

(b) sequence listing part of description filed in computer readable form

(i) ☐ only (under Section 801(a)(i))(ii) ☐ in addition to being filed in paper form (under Section 801(a)(ii))

Type and number of carriers (diskette, CD-ROM, CD-R or other) on which the sequence listing part is contained (additional copies to be indicated under item 9(ii), in right column):

This international application is accompanied by the following item(s) (mark the applicable check-boxes below and indicate in right column the number of each item):

Number of items

1. ☒ fee calculation sheet : 1
2. ☐ original separate power of attorney :
3. ☐ original general power of attorney :
4. ☐ copy of general power of attorney, reference number, if any: :
5. ☐ statement explaining lack of signature :
6. ☐ priority document(s) identified in Box No. VI as item(s): :
7. ☐ translation of international application into (language): :
8. ☐ separate indications concerning deposited microorganism or other biological material :
9. ☐ sequence listing in computer readable form (indicate also type and number of carriers (diskette, CD-ROM, CD-R or other)) :
 - (i) ☐ copy submitted for the purposes of international search under Rule 13ter only (and not as part of the international application) :
 - (ii) ☐ (only where check-box (b)(i) or (b)(ii) is marked in left column) additional copies including, where applicable, the copy for the purposes of international search under Rule 13ter :
 - (iii) ☐ together with relevant statement as to the identity of the copy or copies with the sequence listing part mentioned in left column :
10. ☐ other (specify): :

Figure of the drawings which should accompany the abstract:

Language of filing of the international application:

Dutch

Box No. X SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

FERGUSON Alexander

For receiving Office use only

1. Date of actual receipt of the purported international application:

3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:

4. Date of timely receipt of the required corrections under PCT Article 11(2):

5. International Searching Authority (if two or more are competent): ISA /

6. ☐ Transmittal of search copy delayed until search fee is paid

2. Drawings:

☐ received:☐ not received:

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ EPO



PCT

CHAPTER II

DEMAND

18.06.05
15:38
H.L. Stefanzki
Mail Room
HnoA45 Tel.: 4618

Under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA		Date of receipt of DEMAND	
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference PCTP167575A	
International application No. PCT/NL02/00754	International filing date (day/month/year) 21 November 2002	(Earliest) Priority date (day/month/year) 21 November 2001	
Title of invention Device and method for manufacturing and packaging lollipops			
Box No. II APPLICANT(S)		ARCHIEF	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) CFS WEERT B.V. De Fuus 8 6006 RV WEERT The Netherlands		Telephone No.	
		OCTROOIBUREAU VRIESEBEEK NEDERLAND GADE	
		Teleprinter No.	
		Applicant's registration No. with the Office	
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) ASMA, Seferinus Jelle Van Vroonhovenlaan 1A 5503 CM VELDHOVEN The Netherlands			
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) DER KINDEREN, Henricus Antonius Maria Bergstraat 54 5931 CE TEGELEN The Netherlands			
State (that is, country) of nationality: The Netherlands (NL)		State (that is, country) of residence: The Netherlands (NL)	
☐ Further applicants are indicated on a continuation sheet.			

Sheet No. 2

International application No.
PCT/NL02/00754

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The following person is ☒ agent ☐ common representative

and ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.

☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.

☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: (Family name followed by given name; for a legal entity, full official designation.
The address must include postal code and name of country.)

de Hoop, Eric
c/o Octrooibureau Vriesendorp & Gaade
P.O. Box 266
2501 AW The Hague
The Netherlands

Telephone No.

070 - 3614721

Facsimile No.

070 - 3646793

Teleprinter No.

Agent's registration No. with the Office

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION

Statement concerning amendments:*

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filed

the description ☐ as originally filed

☐ as amended under Article 34

the claims ☐ as originally filed

☐ as amended under Article 19 (together with any accompanying statement)

☐ as amended under Article 34

the drawings ☐ as originally filed

☐ as amended under Article 34

2. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.

3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). (This check-box may be marked only where the time limit under Article 19 has not yet expired.)

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

☐ which is the language in which the international application was filed.

☒ which is the language of a translation furnished for the purposes of international search.

☐ which is the language of publication of the international application.

☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

Box No. V ELECTION OF STATES

The applicant hereby elects all eligible States (that is, all States which have been designated and which are bound by Chapter II of the PCT)

excluding the following States which the applicant wishes not to elect:

Sheet No. 3.

International application No.
PCT/NL02/00754

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:			For International Preliminary Examining Authority use only	
			received	not received
1.	translation of international application	sheets	☐	☐
2.	amendments under Article 34	sheets	☐	☐
3.	copy (or, where required, translation) of amendments under Article 19	sheets	☐	☐
4.	copy (or, where required, translation) of statement under Article 19	sheets	☐	☐
5.	letter	sheets	☐	☐
6.	other (specify)	sheets	☐	☐

The demand is also accompanied by the item(s) marked below:

1. ☒ fee calculation sheet	5. ☐ statement explaining lack of signature
2. ☐ original separate power of attorney	6. ☐ sequence listing in computer readable form
3. ☐ original general power of attorney	7. ☐ other (specify):
4. ☐ copy of general power of attorney; reference number, if any:	

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE
Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).


de Hoop, Eric

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:	
2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):	
3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.	☐ The applicant has been informed accordingly.
4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.	
5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.	

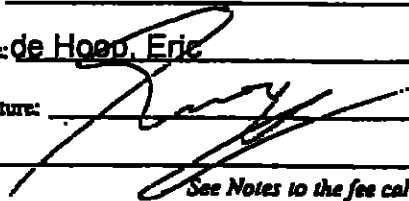
For International Bureau use only

Demand received from IPEA on:

PCT

FEE CALCULATION SHEET

Annex to the Demand

International application No. PCT/NL02/00754		For International Preliminary Examining Authority use only	
Applicant's or agent's file reference PCTP167575A		Date stamp of the IPEA	
Applicant CFS WEERT B.V.			
CALCULATION OF PRESCRIBED FEES			
1. Preliminary examination fee		EUR 1530,-	P
2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)		EUR 159,-	H
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box		EUR 1689,-	
		TOTAL	
MODE OF PAYMENT			
☒	authorization to charge deposit account with the IPEA (see below)	☐	cash
☐	cheque	☐	revenue stamps
☐	postal money order	☐	coupons
☐	bank draft	☐	other (specify):
AUTHORIZATION TO CHARGE (OR CREDIT) DEPOSIT ACCOUNT (This mode of payment may not be available at all IPEAs)			
☒ Authorization to charge the total fees indicated above.		IPEA/ EPO	
☒ (This check-box may be marked only if the conditions for deposit accounts of the IPEA so permit) Authorization to charge any deficiency or credit any overpayment in the total fees indicated above.		Deposit Account No.: 28090028	
		Date: 18 June 2003	
		Name: de Hoop, Eric	
		Signature: 	

From the INTERNATIONAL BUREAU

PCT

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

To:

FERGUSON, Alexander
Octrooibureau Vriesendorp & Gaade
P.O. Box 266
NL-2501 AW Den Haag
PAYS-BASKopie gemaakt voor
schaduwdoosler -
Den Haag

ONTVANGEN

13 JUNI 2003

BEANTWOORD

Date of mailing(day/month/year) 30 May 2003 (30.05.03)		
Applicant's or agent's file reference PCTP167575A		IMPORTANT NOTICE
International application No. PCT/NL02/00754	International filing date(day/month/year) 21 November 2002 (21.11.02)	Priority date(day/month/year) 21 November 2001 (21.11.01)
Applicant CFS WEERT B.V.		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this notice:

KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this notice is a copy of the international application as published by the International Bureau on 30 May 2003 (30.05.03) under No. Q3/043436

4. TIME LIMITS for filing a demand for international preliminary examination and for entry into the national phase

The applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be 30 MONTHS from the priority date, not only in respect of any elected Office if a demand for international preliminary examination is filed before the expiration of 19 months from the priority date, but also in respect of any designated Office, in the absence of filing of such demand, where Article 22(1) as modified with effect from 1 April 2002 applies in respect of that designated Office. For further details, see *PCT Gazette* No. 44/2001 of 1 November 2001, pages 19926, 19932 and 19934, as well as the *PCT Newsletter*, October and November 2001 and February 2002 issues.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain designated or elected Offices. For regular updates on the applicable time limits (20, 21, 30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

For filing a demand for international preliminary examination, see the *PCT Applicant's Guide*, Volume I/A, Chapter IX. Only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination (at present, all PCT Contracting States are bound by Chapter II).

It is the applicant's sole responsibility to monitor all these time limits.

The applicant is hereby notified that, at the time of establishment of this Notice, the time limit under Rule 46.1 for making amendments under Article 19 has not yet expired and the International Bureau had received neither such amendments nor a declaration that the applicant does not wish to make amendments.

The International Bureau of WIPO 34, chemin des Colombières 1211 Geneva 20, Switzerland	Authorized officer Judith Zahra
Facsimile No.(41-22) 740.14.35	Telephone No.(41-22) 338.91.11

PATENT COOPERATION TREATY

VANGEN

- 7 OKT. 2003

BEANTWOORD

PCT

From the INTERNATIONAL BUREAU

INFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

To:

FERGUSON, Alexander
Octrooibureau Vriesendorp & Gaade
P.O. Box 266
NL-2501 AW Den Haag
Netherlands

Kopie gemaakt voor
schaduwdoossier -
Den Haag

Date of mailing (day/month/year)

26 September 2003 (26.09.03)

Applicant's or agent's file reference

PCTP167575A

IMPORTANT INFORMATION

International application No.

PCT/NL02/00754

International filing date (day/month/year)

21 November 2002 (21.11.02)

Priority date (day/month/year)

21 November 2001 (21.11.01)

Applicant

CFS WEERT B.V. et al

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:

EP : AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR

National : BG, CA, CN, DE, GB, IL, JP, KP, KR, MN, NO, PL, RO, RU, SK, US

2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:

AP : GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW

EA : AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

OA : BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

National : AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BY, BZ, CH, CO, CR, CU, CZ, DK, DM, DZ, EC,

EE, ES, FI, GD, GE, GH, GM, HR, HU, ID, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MW, MX, MZ, NZ, OM, PH, PT, SC, SD, SE, SG, SI, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ,

VC, VN, YU, ZA, ZM, ZW

3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1)(a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 38(3)(b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into the European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 338.89.85

Authorized officer:

Christine BACQUAERT

Telephone No. (41-22) 338 8987

PATENT COOPERATION TREATY

ONTVANGEN 52

28 AUG. 2003

BEANTWOORD

PCT

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

DE HOOP, Eric
OCTROOIBUREAU VRIESENDORP & GAADE
Postbus 266
NL-2501 Den Haag
PAYS-BAS

Kopie gemaakt voor
schaduwdoosler -
Den Haag

WRITTEN OPINION
(PCT Rule 66)

Date of mailing (day/month/year) 26.08.2003	
Applicant's or agent's file reference PCTP167575A	REPLY DUE within 3 month(s) from the above date of mailing
International application No. PCT/NL02/00754	International filing date (day/month/year) 21.11.2002
Priority date (day/month/year) 21.11.2001	
International Patent Classification (IPC) or both national classification and IPC A23G3/20	
Applicant CFS WEERT B.V. et al.	

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☒ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 68.2(a)(II) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
 - VI ☒ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 68.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 68.3. For the form and the language of the amendments, see Rules 68.8 and 68.9.

Also: For an additional opportunity to submit amendments, see Rule 68.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 68.4 bis.
For an informal communication with the examiner, see Rule 68.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 21.03.2004

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523658 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Schmitter, B

Formalities officer (incl. extension of time limits)

Wicha, M

Telephone No. +49 89 2399-7281



WRITTEN OPINION

International application No. PCT/NL02/00754

I. Basis of the opinion

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"*).

Description, Pages

1-18 as originally filed

Claims, Numbers

1-33 as originally filed

Drawings, Sheets

1-8 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

WRITTEN OPINION

International application No. **PCT/NL02/00754**

5. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under Item 1 and annexed to this opinion.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been and will not be examined in respect of:

☐ the entire international application,

☒ claims Nos. 13,31-33

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 13,31-33 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A written opinion cannot be drawn due to the failure of the nucleotide and/or amino acid sequence listing to comply with the Standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

IV. Lack of unity of invention

1. In response to the invitation (Form PCT/PEA/405) to restrict or pay additional fees, the applicant has:

☐ restricted the claims.

☐ paid additional fees.

☐ paid additional fees under protest.

☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with for the following reasons and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees:

see separate sheet

3. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this opinion:

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WRITTEN OPINION

International application No. **PCT/NL02/00754**

- ☒ all parts.
- ☐ the parts relating to claims Nos. .

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1
Inventive step (IS)	Claims	23,29
Industrial applicability (IA)	Claims	.

2. Citations and explanations

see separate sheet

**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/NL02/00754

Item III

The present application comprises two claims 13, the second one has not been considered.

Claims 31-33 contain only references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

Item IV

The separate inventions are:

Claims 1-22: device for manufacturing lollipops, of any shape, with or without filling.

Claims 23-28: method for making flat lollipops having a filling.

Claims 29, 30: lollipop having a flat confectionery part provided with a filling, which can be produced by any device and method.

They are obviously not so linked as to form a single general inventive concept (Rule 13.1 PCT).

Item V

The following documents are mentioned:

D1...BE 877 880 A

D2...US 4 847 090 A

1. ~~Claims~~ 1, 23 and 29 do not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The terms "flat", "main axis" and "upper" / "lower" used in claim 1, and "filling" in claims 23, 29, leave the reader in doubt as to the meaning of the technical features to which they refer, because any non spherical shape may be defined as flat, and the main axis is not defined.
2. The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and insofar as this claim can be understood or interpreted, this document shows the features of claim 1 because other shape than spherical is explicitly mentioned in D1 (see p.12, § 4).

The present application does not satisfy the criterion set forth in Article 33(2) PCT because the subject-matter of Claim 1 is not new in respect of prior art as defined in the regulations (Rule 64(1)-(3) PCT).

**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/NL02/00754

A device according to claim 1 is known from D1.

3. Claim 23: Document D1, discloses a method from which the subject-matter of Claim 23 differs only in that a filling is provided (the features following "preferably" being optional have not been considered).

The solution proposed in Claim 23 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because any inclusion of e.g. corn (see D2, fig.12-14) can be considered as filling.

4. Claim 29: Document D2, discloses a device from which the subject-matter of Claim 29 differs only in that a stick is provided (the inclusion of e.g. corn, see D2, fig.12-14 is considered as filling).

The solution proposed in Claim 29 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because the inclusion of a stick in the hard candy confection of D2 seems obvious and well known.

5. Dependent Claims 2-22 do appear to contain additional features which, in combination with the features of any claim to which they refer, involve an inventive step.

6. The Independent claims are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble (Rule 6.3(b)(i) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

7. Reference signs in parentheses should be inserted in the claims to increase their intelligibility, Rule 6.2(b) PCT. This applies to both the preamble and characterising portion.

8. The attention of the applicant is drawn to the fact that the application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed, Article 34(2)(b) PCT. Any information the

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**WRITTEN OPINION
SEPARATE SHEET**

International application No. PCT/NL02/00754

applicant may wish to submit concerning the subject-matter of the invention, for example further details of its advantages or of the problem it solves, and for which there is no basis in the application as filed, should be confined to the letter of reply rather than be incorporated into the application, Article 34(2)(b) PCT.

In order to facilitate the examination of the conformity of the amended application with the requirements of Article 34(2)(b) PCT, the applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

ONTVANGEN
24 FEB. 2004
BEANTWOORD
PCT

To:

DE HOOP, Eric
OCTROOIBUREAU VRIESENDORP & GAADE
Postbus 268
NL-2501 Den Haag
PAYS-BAS

Kopie gemaakt voor
schaduwdoossier -
Den Haag

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing (day/month/year)	20.02.2004
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Applicant's or agent's file reference PCTP167575A	IMPORTANT NOTIFICATION
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International application No. PCT/NL 02/00754	International filing date (day/month/year) 21.11.2002	Priority date (day/month/year) 21.11.2001
--	--	--

Applicant CFS WEERT B.V. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the International preliminary examining authority:	Authorized Officer
--	--------------------



European Patent Office
D-80298 Munich
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Salaün, M

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)50
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Applicant's or agent's file reference PCTP167575A	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEAA/16)	
International application No. PCT/NL 02/00754	International filing date (day/month/year) 21.11.2002	Priority date (day/month/year) 21.11.2001
International Patent Classification (IPC) or both national classification and IPC A23G3/20		
Applicant CFS WEERT B.V. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 7 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 7 sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☒ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 18.06.2003	Date of completion of this report 20.02.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80288 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Schmitter, B Telephone No. +49 89 2399-2520 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL 02/00754**

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-18 as originally filed

Claims, Numbers

1-33 received on 25.11.2003 with letter of 21.11.2003

Drawings, Sheets

1-8 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL 02/00754**

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

1. The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 31-33

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (specify):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 31-33 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos.

2. A meaningful international preliminary examination cannot be carried out due to the failure of the nucleotide and/or amino acid sequence listing to comply with the standard provided for in Annex C of the Administrative Instructions:

☐ the written form has not been furnished or does not comply with the Standard.

☐ the computer readable form has not been furnished or does not comply with the Standard.

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees, the applicant has:

☐ restricted the claims.

☐ paid additional fees.

☐ paid additional fees under protest.

☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/NL 02/00754**

- ☐ complied with.
- ☒ not complied with for the following reasons:
see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:
- ☒ all parts.
 - ☐ the parts relating to claims Nos. .

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-30
	No: Claims	
Inventive step (IS)	Yes: Claims	2,3,5-13,18-22,27,28
	No: Claims	1,4,13-17,23-26,29,30
Industrial applicability (IA)	Yes: Claims	1-30
	No: Claims	

- 2. Citations and explanations**
see separate sheet

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04

Re Item III

N n-establishment of opinion with regard to novelty, inventive step and industrial applicability

The present application comprises two claims 13, the second one has not been considered.

Claims 31-33 contain only references to the description and the drawings. According to Rule 6.2(a) PCT, claims should not contain such references except where absolutely necessary, which is not the case here.

Item IV

The separate inventions are:

Claims 1-22: device for manufacturing flat lollipops provided with a stick, with or without filling.

Claims 23-28: method for making flat lollipops having a filling, with or without a stick.

Claims 29, 30: lollipop having a flat confectionery part provided with a filling, which can be produced by any device and method.

They are obviously not so linked as to form always a single general inventive concept (Rule 13.1 PCT).

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents are mentioned:

D1...BE 877 880 A

D2...US 4 847 090 A

D3...EP 1 000 551 A

D4...WO 01/58273 A

1. Claim 1: Document D3, (see §3,4,22,34,35,39) which is considered to represent a relevant state of the art, discloses a device from which the subject-matter of Claim 1 differs only in that
 - the strand of lollipop material is in a flat cross-section (in D3, see §3, the section of the rib or strip is not defined),

-the moulds are flat.

The subject-matter of claim 1 is therefore novel (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as to produce flat lollipops.

Flat lollipops seem well known from the skilled person.

In the document D1, other shape than spherical is explicitly mentioned (see p.12, § 4).

In D3 the shape of the moulds is not defined and it seems obvious that the drawings of D3 are not limiting this shape to a strictly cylindrical lollipop. As a slightly elliptical cross-section could be defined as "flat" (see also D4, fig.11d), the solution proposed in claim 1 of the present application is not considered as involving an inventive step (Article 33(3) PCT).

Thus the device according to claim 1 does not involve an inventive step.

The subject-matter of claim 1 is able to function, can be manufactured, and is thus looked upon as being industrially applicable.

2. The solutions proposed in Claims 2,3,5-13,18-22 are considered as involving an inventive step (Article 33(3) PCT).
3. The solutions proposed in Claims 4, 13-17 are not considered as involving an inventive step if dependent only of claim 1, because they relate to features known from the prior art or obvious for the skilled person to solve different problems.
4. Claim 23: Document D3, discloses a method from which the subject-matter of Claim 23 differs only in that
 - a filling is provided
 - the strand is supplied flat.(the features following "preferably" being optional have not been considered).

The solution proposed in Claim 23 of the present application cannot be

considered as involving an inventive step (Article 33(3) PCT) because any inclusion of e.g. corn (see D2, fig.12-14) can be considered as filling; concerning the feature "flat" the same argumentation as for the device of claim 1 applies.

5. The solution proposed in Claim 24 cannot be considered as involving an inventive step because enveloped filling is disclosed in D4.
6. The solutions proposed in Claims 25 and 26 of the present application cannot be considered as involving an inventive step because known from D1.
7. The solutions proposed in Claims 27 and 28 are considered as involving an inventive step (Article 33(3) PCT).

8. Claims 29 and 30:

The term "simple" concerning the filling is not clear and has been interpreted as a single piece of filling.

Document D4 (see p.4, l.2-8, fig.11d), discloses a device from which the subject-matter of Claim 29 differs only in that a stick is provided.

The solutions proposed in Claims 29, 30 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) because the inclusion of a stick in the confectionery product of D4 seems obvious and well known and the shape of the filling being at least partly similar as the confectionary part.

Claims (amended)

1. Device for manufacturing lollipops provided with a stick, comprising a stationary supply for a strand of lollipop material in flat cross-section condition, a series of flat lollipop moulds movable past the supply according to a circulating path of movement, each lollipop mould having a main axis parallel to the stick and transverse to the path of movement, each mould consisting of a lower mould and an upper mould, in which the upper mould is movable to be closed onto the lower mould while cutting off a leading portion of the strand, the supply being positioned for discharge of the strand in a direction transverse to the mould main axis.

2. Device according to claim 1, the moulds, considered in cross-sectional plane transverse to the main axis, being inclined with respect to the path of movement.

3. Device according to claim 2, the moulds with their in process direction leading edges being situated at a higher level than their in process direction trailing edges.

4. Device according to claim 1, 2 or 3, furthermore provided with a stationary scraper extending from the upstream side to just above the boundaries of the lower moulds.

5. Device according to any one of the preceding claims, the upper moulds each being defined by connecting portions of two adjacent upper mould members, which are closable in succession onto the lower mould while

cutting off a leading portion of the strand, the upper mould members being arranged staggered over half a mould width with respect to the lower moulds, the upper mould members being provided with a first separation rib oriented towards the lower mould, and the lower moulds being separated from each other by means of a second separation rib, which is positioned for closing contact with the first separation rib, the upper mould members being tiltable about an axis transverse to the main axis of the lollipop mould from an open position to a closing position and the separation ribs being capable of performing a cutting action with each other on the strand, the first and second separation ribs in the direction of the main axis being provided with corresponding, vertical discontinuities, such as steps.

6. Device according to claim 5, the discontinuity forming a step oriented perpendicular to the main axis.

7. Device according to claim 6, the discontinuity forming a step forming a cutting side which is substantially tangential with respect to the tilting path of the upper moulds.

8. Device according to claim 6 or 7, the discontinuity forming a tip.

9. Device according to claim 6, 7 or 8, in the usual manner provided with means active away from the tilting axis for pressing in the lollipop mass in the mould in the direction of the main axis, the second separation rib forming a step oriented away from the tilting axis.

10. Device according to any one of the claims 5-9, the discontinuity being situated approximately halfway the main axis of the mould.

11. Device according to any one of the claims 5-10, the separation ribs being formed smoothly concave.

12. Device according to any one of the claims 5-11, the second separation rib comprising a low portion and a high portion separated by the discontinuity.

5 13. Device according to claims 3 and 12, the scraper extending into the path of lower positioned portion of the second separation rib.

10 13. Device according to any one of the preceding claims, the upper and lower moulds being sidewardly limited by rounded off edges extending in the direction of the main axis, which edges merge into the first and second separation ribs, respectively.

15 14. Device according to any one of the preceding claims, furthermore provided with means for pressing the mass of the leading portion of the strand accommodated in the mould in the direction of the main axis, as well as with means for urging a lollipop stick into the mass in an opposite direction.

20 15. Device according to any one of the preceding claims, the moulds being arranged on a drum, the lower moulds being a part of the surface of the drum.

25 16. Device according to any one of the preceding claims, furthermore provided with a stock of lollipop sticks and a stock sensor for detecting the sticks in stock at a certain recognizable level related to a number of sticks in stock, the supply comprising supply rollers active on traction for the strand, as well as a strand cutter positioned upstream of it, the stock sensor and the strand cutter being coupled through a control unit activating the strand cutter with a delay corresponding to the processing time of the
30 number of sticks after the stock sensor no longer detects sticks at the aforementioned level.

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17. Device according to any one of the claims 1-15, furthermore provided with a stock of lollipop sticks and a closing means for the stock, and with a strand sensor at the location of the supply for detecting a strand, the closing means and the strand sensor being coupled through a control unit activating the closing means with a delay corresponding to the passage time of the portion or strand length situated between the closing means or the point of discharge of the sticks to the lollipop moulds and the strand sensor.

18. Device according to claim 15, the drum being provided with transverse slits for accommodation of the lollipop sticks, stationary stick lifters being placed in a track of the drum where the moulds are closed and the sticks have been pressed into the lollipop mass, which stick lifters are positioned for transferring the sticks by means of gravitational force to a lollipop transfer drum placed near it and provided with recesses for the sticks for transferring the lollipops to a packaging conveyor, the stick lifters merging into confinements extending along the circumference of the transfer drum for keeping the sticks in the recesses.

19. Device according to claim 18, the packaging conveyor being provided with stick clamps, and an outwardly spring-biased transfer means being placed between the transfer drum and the conveyor, which transfer means urges the sticks from the recess on the transfer drum into the clamp of the conveyor.

20. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having means for, while enclosing the lollipops, bringing an upper foil and a lower foil towards each other, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the means for making the

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transverse seals and the separation means being provided on the same first pair of cooperating rollers, placed on either side of the path of movement of the lollipops and foils, and means for making longitudinal seals being provided on a second pair of rollers placed upstream from the first pair of rollers.

21. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having a supply for an upper foil and a lower foil, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the packaging conveyor being provided with a circulating body having holders for the lollipop sticks, as well as a drive for it, the circulating body being arranged on a frame which is movable between a position adjacent to the sealing means for cooperation therewith, and a removed position in which the sealing means are freely accessible.

22. Device according to claim 21, the frame being pivotable about an axis coinciding with the drive of the circulating body.

23. Method for making flat lollipops having a filling, a strand of lollipop material being supplied to a circulating series of moulds, comprising a circulating series of fixed lower moulds and circulating along with them a series of upper moulds that can be opened and closed, while cutting off the leading portion of the strand necessary for the lollipop in question, the strand being supplied flat, preferably in a direction situated in a plane parallel to the plane of circulation.

24. Method according to claim 23, the flat strand of lollipop material comprising an enveloped filling.

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25. Method according to claim 23 or 24, the lower moulds moving according to a path of moulding and the strand being introduced according to an introduction path which is at an acute angle to the path of moulding, considered in a plane parallel to the path of moulding.

5

26. Method according to claim 25, the lower moulds moving according to a circular path.

10

27. Method according to claim 24, 25 or 26, the lower moulds during accommodation of the leading portion of the strand being kept tilted, preferably tilted backwards, with respect to the path of moulding.

15

28. Method according to claim 27, each upper mould being provided by two consecutive upper mould members, which one after the other are brought into closing engagement with the lower mould in question, the cutting off taking place by means of cooperating cutting edges at both the consecutive upper mould members and the lower mould, the cooperating cutting edges being provided with discontinuities formed in the plane of the cutting motion.

20

29. Lollipop having a flat confectionery part and a stick, the confectionery part being provided with an filling enveloped all round, said filling being simple and located centrally in the lollipop.

25

30. Lollipop according to claim 28, the filling having a similar shape as the confectionery part.

30

31. Device provided with one or more of the characterizing measures described in the attached description and/or shown in the attached drawings.

32. Assembly provided with one or more of the characterizing measures

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described in the attached description and/or shown in the attached drawings.

33. Method comprising one or more of the characterizing steps described
5 in the attached description and/or shown in the attached drawings.

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Claims CO

- 1. Device for manufacturing lollipops provided with a stick, comprising a stationary supply for a strand of lollipop material in flat, in particular substantially rectangular cross-section condition, a series of flat lollipop moulds movable past the supply according to a circulating path of movement, each lollipop mould having a main axis parallel to the stick and transverse to the path of movement, each mould consisting of a lower mould and an upper mould, in which the upper mould is movable to be closed onto the lower mould while cutting off a leading portion of the strand, the supply being positioned for discharge of the strand in a direction transverse to the mould main axis.**
- 2. Device according to claim 1, the moulds, considered in cross-sectional plane transverse to the main axis, being inclined with respect to the path of movement.**
- 3. Device according to claim 1 or 2, the moulds with their in process direction leading edges being situated at a higher level than their in process direction trailing edges.**
- 4. Device according to claim 1, 2 or 3, furthermore provided with a stationary scraper extending from the upstream side to just above the boundaries of the lower moulds.**
- 5. Device according to any one of the preceding claims, the upper moulds each being defined by connecting portions of two adjacent upper mould**

members, which are closable in succession onto the lower mould while cutting off a leading portion of the strand, the upper mould members being arranged staggered over half a mould width with respect to the lower moulds, the upper mould members being provided with a first separation rib oriented towards the lower mould, and the lower moulds being separated from each other by means of a second separation rib, which is positioned for closing contact with the first separation rib, the upper mould members being tiltable about an axis transverse to the main axis of the lollipop mould from an open position to a closing position and the separation ribs being capable of performing a cutting action with each other on the strand, the first and second separation ribs in the direction of the main axis being provided with corresponding, vertical discontinuities, such as steps.

6. Device according to claim 5, the discontinuity forming a step oriented perpendicular to the main axis.

7. Device according to claim 6, the discontinuity forming a step forming a cutting side which is substantially tangential with respect to the tilting path of the upper moulds.

8. Device according to claim 6 or 7, the discontinuity forming a tip.

9. Device according to claim 6, 7 or 8, in the usual manner provided with means active away from the tilting axis for pressing in the lollipop mass in the mould in the direction of the main axis, the second separation rib forming a step oriented away from the tilting axis.

10. Device according to any one of the claims 5-9, the discontinuity being situated approximately halfway the main axis of the mould.

11. Device according to any one of the claims 5-10, the separation ribs being formed smoothly concave.

12. Device according to any one of the claims 5-11, the second separation rib comprising a low portion and a high portion separated by the discontinuity.

13. Device according to claims 4 and 12, the scraper extending into the path of lower positioned portion of the second separation rib.

14. Device according to any one of the preceding claims, the upper and lower moulds being sidewardly limited by rounded off edges extending in the direction of the main axis, which edges merge into the first and second separation ribs, respectively.

15. Device according to any one of the preceding claims, furthermore provided with means for pressing the mass of the leading portion of the strand accommodated in the mould in the direction of the main axis, as well as with means for urging a lollipop stick into the mass in an opposite direction.

16. Device according to any one of the preceding claims, the moulds being arranged on a drum, the lower moulds being a part of the surface of the drum.

17. Device according to any one of the preceding claims, furthermore provided with a stock of lollipop sticks and a stock sensor for detecting the sticks in stock at a certain recognizable level related to a number of sticks in stock, the supply comprising supply rollers active on traction for the strand, as well as a strand cutter positioned upstream of it, the stock sensor and the strand cutter being coupled through a control unit activating the strand cutter with a delay corresponding to the processing time of the number of sticks after the stock sensor no longer detects sticks at the aforementioned level.

18. Device according to any one of the claims 1-16, furthermore provided with a stock of lollipop sticks and a closing means for the stock, and with a strand sensor at the location of the supply for detecting a strand, the closing means and the strand sensor being coupled through a control unit activating the closing means with a delay corresponding to the passage time of the portion or strand length situated between the closing means or the point of discharge of the sticks to the lollipop moulds and the strand sensor.

19. Device according to claim 16, the drum being provided with transverse slits for accommodation of the lollipop sticks, stationary stick lifters being placed in a track of the drum where the moulds are closed and the sticks have been pressed into the lollipop mass, which stick lifters are positioned for transferring the sticks by means of gravitational force to a lollipop transfer drum placed near it and provided with recesses for the sticks for transferring the lollipops to a packaging conveyor, the stick lifters merging into confinements extending along the circumference of the transfer drum for keeping the sticks in the recesses.

20. Device according to claim 19, the packaging conveyor being provided with stick clamps, and an outwardly spring-biassed transfer means being placed between the transfer drum and the conveyor, which transfer means urges the sticks from the recess on the transfer drum into the clamp of the conveyor.

21. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having means for, while enclosing the lollipops, bringing an upper foil and a lower foil towards each other, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the means for making the transverse seals and the separation means being provided on the same first pair of

cooperating rollers, placed on either side of the path of movement of the lollipops and foils, and means for making longitudinal seals being provided on a second pair of rollers placed upstream from the first pair of rollers.

22. Device according to any one of the preceding claims, furthermore provided with a packaging conveyor having a supply for an upper foil and a lower foil, above and underneath, respectively, the lollipops supplied, and means for making a longitudinal seal on either side of the lollipops, means for making a transverse seal on either side of the lollipops, with means for separating the foils at the location of the transverse seals, the packaging conveyor being provided with a circulating body having holders for the lollipop sticks, as well as a drive for it, the circulating body being arranged on a frame which is movable between a position adjacent to the sealing means for cooperation therewith, and a removed position in which the sealing means are freely accessible, the frame being preferably pivotable about an axis coinciding with the drive of the circulating body.

23. Method for making flat lollipops having a filling, a strand of lollipop material being supplied to a circulating series of moulds, comprising a circulating series of fixed lower moulds and circulating along with them a series of upper moulds that can be opened and closed, while cutting off the leading portion of the strand necessary for the lollipop in question, the strand being supplied flat, preferably in a direction situated in a plane parallel to the plane of circulation.

24. Method according to claim 23, the flat strand of lollipop material comprising an enveloped filling.

25. Method according to claim 23 or 24, the lower moulds moving according to a path of moulding and the strand being introduced according to an introduction path which is at an acute angle to the path of moulding, considered in a plane parallel to the path of moulding.

26. Method according to claim 25, the lower moulds moving according to a circular path.

27. Method according to any one of the claims 23-26, the lower moulds during accommodation of the leading portion of the strand being kept tilted, preferably tilted backwards, with respect to the path of moulding.

28. Method according to claim 27, each upper mould being provided by two consecutive upper mould members, which one after the other are brought into closing engagement with the lower mould in question, the cutting off taking place by means of cooperating cutting edges at both the consecutive upper mould members and the lower mould, the cooperating cutting edges being provided with discontinuities formed in the plane of the cutting motion.

29. Lollipop having a flat confectionery part and a stick, the confectionery part being provided with an filling enveloped all round, said filling being singular and located centrally in the lollipop.

30. Lollipop according to claim 29, the filling having a similar shape as the confectionery part.

DISPOSITIVO Y METODO PARA ELABORAR Y EMPACAR CHUPETAS

La Invención se relaciona con un dispositivo y método para elaborar chupetas.

- 5 Es conocido suministrar una hebra de confitura a una máquina de chupetas, que se suministra con un tambor que tiene una serie de moldes inferiores sobre éste y una serie de moldes superiores que pueden ser sucesivamente cerrados sobre éstos, los cuales definen juntos un espacio de molde para elaborar las así llamadas chupetas redondas. Los moldes superiores están desalineados medio
- 10 molde de inclinación con respecto a los moldes inferiores, de tal forma que cada molde superior define la mitad del lado superior de un molde y la mitad el lado superior del siguiente molde, y en medio se suministra una costilla que se extiende hacia abajo, que coopera con la costilla opuesta entre los moldes inferiores. Después de cerrar el molde superior, al inclinar el molde superior en
- 15 un plano que contiene la línea central del tambor, de una parte se presiona una impresión en la cavidad del molde desde un extremo axial, y después de esto, desde el otro extremo axial se presiona un palillo dentro de la masa de chupeta. Después de aproximadamente media revolución del tambor los moldes superiores son abiertos de nuevo y las chupetas son puestas sobre un
- 20 transferidor para transferirlas a un transportador de empaque, en las cuales ellas son empacadas en un empaque de "sándwich".

La hebra es suministrada en una dirección más o menos tangencial al tambor.

Para elaborar chupetas redondas que tengan un relleno, la hebra suministrada

- 25 está provista con un relleno en el centro.

- Es adicionalmente conocido para elaborar y empacar chupetas planas, eso significa chupetas que tienen una sección transversal no redondeada o plana o perfectamente plana en el empaque de "sándwich". Se suministra entonces una hebra de confitería en una forma plana a un tambor provisto con una serie
- 5 circunferencial de moldes. Los moldes son accesibles a la hebra desde un lado axial, cuya hebra es subsecuentemente cortada por medios de un cortador separado, después de lo cual se cierran los moldes. En el interior radial el molde es presurizado, después de lo cual se inserta un palito desde el otro lado axial.
- 10 Es un objeto de la invención suministrar un dispositivo y método para elaborar chupetas planas que tienen un relleno.

Un objeto adicional de la invención es proporcionar un dispositivo y método para elaborar chupetas planas a alta velocidad.

15

Un objeto aún adicional de la invención es proporcionar un dispositivo y método para elaborar chupetas planas que tienen bordes redondeados.

- Para lograr al menos uno de dichos objetivos la invención suministra por una
- 20 parte un dispositivo para elaborar chupetas, que comprende un suministro estacionario para una hebra de material de chupeta en una condición de sección transversal plana, una serie de moldes de chupeta planos movibles que pasan el suministro de acuerdo con una senda de movimiento, los moldes de chupeta tienen un eje principal y cada uno consiste de un molde inferior y un molde
- 25 superior, que pueden ser cerrados sobre el molde inferior aunque cortando una

porción guía de la hebra, el suministro está ubicado para descarga de la hebra en la dirección transversal del eje principal.

Se ha conseguido que con el dispositivo de acuerdo con la invención se puedan
5 hacer las chupetas planas de la invención a alta velocidad, posiblemente chupetas con un relleno.

Después de elaborar las chupetas planas ellas tienen que ser removidas de los moldes. Los moldes superiores son entonces primero separados de los moldes
10 inferiores, y después de esto las chupetas se pueden dejar caer de los moldes inferiores o removerse activamente. Sin embargo, las chupetas tienen un exterior pegajoso, como resultado de lo cual existe la posibilidad de que las chupetas se mantengan pegadas en los moldes inferiores. Con el fin de evitar de que un molde inferior rellanado llegue de nuevo al suministro de hebra, en la
15 elaboración de chupetas redondas se hace por lo tanto uso de un pelador ubicado por detrás del sitio pretendido de descarga de las chupetas de los moldes, cuyo pelador tiene que ejercer una fuerza de sacada sobre las chupetas. No siempre se tiene éxito, como resultado de lo cual la chupeta permanece donde está o el pelador separa una pieza de la chupeta. En el caso
20 de las chupetas planas este problema es mayor en razón a que la superficie pegajosa es relativamente grande. El riesgo de que se pegue en el molde entonces se incrementa. Un molde inferior que tenga una superficie más pequeña que el molde superior es por lo tanto forzoso, de tal forma que la parte sobresaliente del molde inferior es mayor, pero como resultado esto puede
25 afectar el proceso de llenado.

Para este fin la invención, desde un aspecto adicional, suministra un dispositivo del tipo anteriormente mencionado, en el cual los moldes, considerados en el plano en sección transversal con el eje principal, están inclinados con respecto a la celda de movimiento. Como resultado el pelador o similar puede iniciar una
5 fuerza vertical extra, debido a lo cual se mejora la descarga de las chupetas.

Preferiblemente los moldes con sus bordes de conducción en dirección del proceso están en un nivel superior que sus bordes de salida en dirección del proceso, como resultado de lo cual una herramienta de aflojamiento, tal como
10 un pelador o similar es capaz de ejercer un movimiento inclinado sobre las chupetas planas en los moldes. El ángulo de inclinación puede ser del orden de magnitud de 4-10°.

En una modalidad se hace uso de un pelador estacionario que se extiende
15 desde el lado corriente arriba hasta justo por encima de los límites de los moldes inferiores.

Preferiblemente los moldes superiores están cada uno definidos mediante porciones conectantes de dos miembros de moldes superiores adyacentes, que
20 son cerrables en su sección sobre el molde inferior aunque cortando la porción de entrada de la hebra, los miembros de molde superior están dispuestos de una manera oscilante sobre la mitad del ancho de molde con respecto a los moldes inferiores.

25 Es conocido permitir que los moldes superiores sean definidos cada uno por las porciones conectantes de dos miembros de molde superior adyacente, que son

cerrables en sucesión sobre el molde inferior aunque cortando una porción entrante de la hebra, Los miembros de molde superior están dispuestos de manera oscilante sobre la mitad del ancho de molde con respecto los moldes inferiores, los miembros de molde superior están provistos con una primera costilla de separación orientada hacia el molde inferior, y los moldes inferiores están separados uno del otro por medio de una segunda costilla de separación, los miembros de molde superior son inclinables alrededor de un eje transversal con el eje principal del molde de las chupetas desde una posición abierta a una posición cerrada y las costillas de separación son capaces de ejercer una acción de corte una con la otra sobre la hebra.

Sin embargo, puede ocurrir que después de cerrar los moldes las chupetas permanezcan conectadas una con la otra por medio de un vellón delgado. Este vellón puede permanecer intacto durante el presionamiento de las chupetas en los moldes, de tal forma que las chupetas adyacentes en el sitio de descarga se pueden pegar con partes adicionales del dispositivo. Como resultado el proceso adicional se interrumpe. Este se mejora con una medida adicional de acuerdo con la invención, de acuerdo con lo cual la primera y segunda costillas de separación en la dirección del eje principal se ha suministrado con discontinuidades correspondientes, tales como peldaños.

Aquí también se reporta un borde de corte que corre en una dirección de desviación (desviada desde las costillas de separación usualmente rectas). Usualmente la masa de la chupeta es presionada en el molde cerrado en la dirección del eje principal. Durante la presión de la masa de chupetas en los moldes cerrados el vellón, que se mueve a lo largo parcialmente o como un

todo encuentra la discontinuidad, y de esta manera es partido o cortado, de tal forma que las masas de chupeta adyacentes se separan una de la otra. La acción de corte es adicionalmente mejorada cuando la discontinuidad forma un peldaño orientado perpendicular con el eje principal.

5

La hebra plana es presionada y hecha plana durante el corte en el lado de entrada y de salida y cortada de una manera confiable. En razón de las discontinuidades, tales como peldaños, la separación puede ser filosa y confiable en gran medida.

10

El diseño de los bordes de corte del molde inferior y el molde superior en el dispositivo de acuerdo con la invención hace el dispositivo muy adecuado para uso en la elaboración de chupetas planas provistas con un relleno de una hebra plana abastecida de manera transversal con el eje principal. Este se mejora adicionalmente cuando las costillas de separación se forman de una manera suavemente cóncava, o los moldes superior e inferior son limitados lateralmente con bordes redondeados que se extienden en la dirección del eje principal.

15

La acción de corte es mejorada adicionalmente cuando la discontinuidad forma una etapa orientada de manera perpendicular con el eje principal.

20

La acción de corte es mejorada adicionalmente cuando la discontinuidad forma un peldaño que forma un borde de corte que es sustancialmente tangencial con la senda inclinada de los moldes superiores.

25

Preferiblemente la discontinuidad está situada aproximadamente a la mitad del camino del eje principal del molde, como resultado de lo cual la hebra sufre una doble acción de corte en el centro.

- 5 La acción de corte es adicionalmente mejorada cuando la segunda costilla de separación forma un peldaño orientado alejándose del eje de inclinación y el dispositivo se suministra de la manera usual con medios activos en una dirección alejados del eje de inclinación para presionar la masa de la chupeta en el molde en la dirección del eje principal. El primer borde de separación formará
- 10 un borde de corte que se enfrenta con el eje de inclinación, a lo largo de lo cual es presionada la masa de la chupeta.

- Es adicionalmente preferido cuando la discontinuidad forme una punta por medio de la cual el vellón es acoplado inmediatamente de manera efectivas en
- 15 un corte.

La segunda costilla de separación comprende preferiblemente una porción inferior y una porción alta separada por la discontinuidad.

- 20 En el caso del pelador anteriormente mencionado este puede de una manera ventajosa extenderse dentro de la senda de la porción ubicada inferior de la segunda costilla de separación, de tal forma que esta se extienda tan bajo como sea posible, en ese caso posiblemente aún por debajo de la sección central de la chupeta.

Se nota que las costillas de separación que tienen discontinuidades como se mencionó anteriormente son particularmente ventajosas en la formación de las chupetas, pero que ellas pueden ya ser ventajosas en la formación de chupetas que tienen otras formas, tales como chupetas redondas.

5

Preferiblemente los moldes superior e inferior están unidos por un lado por bordes redondeados que se extienden en la dirección del eje principal y que cambian en la primera y segunda costillas de separación, respectivamente.

- 10 Cuando se utilizan las costillas de separación suministradas con discontinuidades es ventajoso cuando el pelador se extiende en la senda de la porción ubicada inferior de la costilla de separación del molde inferior.

- Preferiblemente el dispositivo con los moldes planos es adicionalmente provisto
15 con medios para presionar la masa de la porción de entrada de la hebra acomodada en el molde en la dirección del eje principal y/o con medios para presionar una chupeta pegada en la masa en la dirección opuesta. Se prefiere adicionalmente que los moldes estén dispuestos en un tambor, los moldes inferiores siendo una parte de la superficie del tambor.

20

- Un problema general en las máquinas de elaboración de chupetas es que el material de reserva de palitos de chupeta se pueda agotar, y que cuando esto se establece —a menudo no hasta que en la salida de la máquina de
empacamiento que la acompañan son empacadas chupetas sin palillo —un
25 numero considerable de moldes se ha llenado con material de chupeta. Las

chupetas hechas –sin palillo –pueden ser entonces arrojadas, lo cual es un gran desperdicio de material.

Es un objeto adicional de la invención suministrar una solución general para este problema. Desde un aspecto de la invención se suministra un dispositivo en ese extremo para la elaboración de chupetas de a partir de una hebra de material de chupeta, provistas adicionalmente con un aprovisionamiento de palitos de chupeta y un sensor de aprovisionamiento para detectar los palitos del aprovisionamiento a un cierto nivel reconocible relacionado con el número de palitos en el aprovisionamiento, el suministro comprende suministrar rodillos activos con tracción para la hebra, así como también cortador de hebra ubicado corriente arriba de este. El sensor de aprovisionamiento y el cortador de hebra están acoplados a través de una unidad de control que activa el cortador de hebra con un retraso correspondiente al tiempo de procesamiento del número de palitos después de que el sensor de aprovisionamiento ya no detecta palitos en el nivel anteriormente mencionado. De esta manera es posible permitirle a la máquina cierto número de suministro de acciones de moldeo relacionadas con el aprovisionamiento cuando se ha establecido de una manera automática que cierta provisión de palitos queda. El cortador de hebras es entonces activado de tal forma que no se abastece más material de chupeta a los moldes. La porción de la hebra situada corriente arriba del cortador de hebra y los rodillos de suministro son inmediatamente detenidos, y después de llenar el aprovisionamiento de palitos puede simplemente de manera manual acoplarse con los rodillos de suministro.

De otra parte puede ocurrir que los palitos sean dispensados sin material de chupeta presente en los moldes. Con el fin de evitar que esto pase un dispositivo de elaboración de chupetas se suministra con un aprovisionamiento de palitos de chupeta y unos medios de cierre para el aprovisionamiento, y con un sensor de hebra en el sitio de suministro para detectar una hebra, los medios de cierre y el sensor de hebra están acoplados a través de una unidad de control que activa los medios de cierre con un retraso correspondiente al tiempo de paso de la porción o longitud de hebra entre los medios de cierre y el sensor de hebra. El suministro de palitos puede ser así activamente controlado, ajustado a la alimentación de la hebra.

Después de que las chupetas han sido removidas de los moldes ellas tienen que ser transferidas a la máquina de empaque presente.

Es adicionalmente un objeto de la invención suministrar unos medios de trabajo suaves para este fin, con los cuales las chupetas de cualquier forma se pueden transferir desde el tambor de moldeo a un transportador de empaque. De acuerdo a un aspecto adicional de la invención el tambor se suministra con hendeduras transversales para acomodación de los palitos de chupeta, levantadores de palitos estacionarios son ubicados en la pista del tambor donde los moldes son cerrados y los palitos han sido presionados dentro de la masa de chupeta, cuyos levantadores de palito están ubicados para transferir los palitos por medio de la fuerza gravitacional a un tambor de transferencia de chupeta ubicado cerca de este y suministrado con nichos para los palitos para transferir las chupetas a un transportador de empaque, los levantadores de palitos se

funden en confinamiento extendiéndose a lo largo de la circunferencia del tambor de transferencia para mantener los palitos en el nicho.

Preferiblemente el transportador de empaque se suministra con grapas de agarre, y unos medios de transferencia exteriores presionados por resorte se ubican entre el tambor de transferencia del transportador, cuyo medio de transferencia presiona los palitos hacia fuera de los nichos sobre el tambor de transferencia en la abrazadera del transportador. Como resultado los palitos son transferidos de una manera confiable.

10

Es conocido empacar chupetas en un dispositivo de empaque de hojuela "sándwich" por medio de un transportador de empaque que tiene un suministro de una hojuela superior y una hojuela inferior, por encima y por debajo, respectivamente, de la chupeta suministrada, y medios para hacer un sello longitudinal sobre cualquiera de los lados de la chupeta, medios para hacer un sello transversal sobre cualquier lado de las chupetas, con medios para separar las hojuelas en el sitio de los sellos transversales. Es adicionalmente conocido hacer el sello longitudinal y el sello transversal con un par simple de rodillos y luego cortar la hojuelas por medio de un par de rodillos de hoja. Esto requiere un ajuste casi perfecto de las chupetas en los rodillos de sello, lo cual no siempre se logra. Alternativamente se utiliza un par de rodillos para el sello longitudinal, un par de rodillos para el sello transversal y luego un par de rodillos de hoja. Sin embargo, esto requiere más espacio.

25 Un objeto adicional de la invención es mejorar esto para cuyo fin, desde otro aspecto se suministran medios para elaborar los hilos transversales y los medios

de separación se suministran sobre el mismo par de primeros rodillos, cooperando uno con el otro y ubicados a cada lado de la senda del movimiento de las chupetas y hojuelas, y en las cuales los medios para elaborar los hilos longitudinales son suministrados sobre un segundo par de rodillos, ubicados
5 corriente arriba del primer par de rodillos.

En máquinas de empaque común para empaques de sándwich los rodillos de sello y corte son difíciles de alcanzar en caso de reparación de fallas y de mantenimiento, por que el transportador para los palitos corre a lo largo del frente. Es un objeto adicional de la invención mejorar esto, para cuyo fin de
10 acuerdo con aún otro aspecto se suministra un transportador de empaque que tiene un suministro y para una hojuela superior y una hojuela inferior, por encima y por debajo respectivamente, de las chupetas suministradas, y medios para hacer un sello longitudinal sobre ambos lados de las chupetas, medios para elaborar un sello transversal a cada lado de las chupetas, con medios para
15 separar las hojuelas en el sitio de los sellos transversales, siendo suministrado el transportador de empaque con un cuerpo circulante que tiene soportes para los palitos de chupeta, así como también accionamiento para estos, el cuerpo circulante está dispuesto sobre la estructura que es movable entre una posición adyacente a los medios de sellado para cooperar con estos, y una posición
20 removida en la cual los medios de sellado son libremente accesibles.

Preferiblemente la estructura ser pivota alrededor de un eje que coincide con el manejo del cuerpo circulante, de tal forma que el manejo en vista de la inclinación no tiene que hacerse provisiones complejas.

Desde un aspecto adicional de la invención se suministra un método para elaborar chupetas planas que tienen un relleno, una hebra de material de chupeta es suministrada a una serie circulante de moldes, que comprenden una serie circulante de moldes inferiores fijos y que circulan a lo largo de ellos una
5 serie de moldes superiores que se pueden abrir y cerrar, mientras se corta la porción de entrada de la hebra necesaria para la chupeta en cuestión, la hebra es suministrada plana, preferiblemente en una dirección situada en un plano paralelo con el plano de circulación.

10 Preferiblemente la hebra plana del material de chupeta comprende un relleno envuelto.

Preferiblemente los moldes inferiores se mueven de acuerdo a una senda de moldeo y la hebra se introduce de acuerdo a una senda de introducción que
15 esta en ángulo agudo con la senda de moldeo, considerada en un plano paralelo con la senda de moldeo, preferiblemente de acuerdo a una senda circular.

Preferiblemente cada molde superior se suministra con dos miembros de molde superior consecutivos, los cuales después de que el otro es puesto al
20 acoplamiento cercano con el molde inferior en cuestión, el corte de la hebra tiene lugar por medio de bordes de corte cooperantes tanto en los miembros de moldes superiores consecutivos como en el miembro inferior, los bordes de corte cooperantes son suministrados con discontinuidades formadas en el plano del movimiento de corte.

Preferiblemente los moldes inferiores durante la recepción de la porción entrante de la hebra son mantenidos inclinados, preferiblemente inclinados hacia atrás, con respecto a la senda de moldeo.

- 5 Desde un aspecto de la invención se suministra una chupeta que tiene una parte de confitería plana y un palito, y la parte de confitería se suministra con un relleno envuelto todo en redondo.

Preferiblemente el relleno tiene una forma similar que la parte de confitería.

10

La invención será elucidada con base en una modalidad de ejemplo mostrada en los dibujos anexos en los cuales:

- La figura 1 muestra una vista esquemática de una modalidad de ejemplo de un
15 dispositivo de acuerdo con la invención;

La figura 1A muestra un detalle de un tambor de la figura 1, con un abastecimiento adicional de palitos;

- 20 La figura 1B-D muestra un molde superior en sección transversal en la vista inferior;

La figura 2A muestra una vista de extremo de un doble de una serie de moldes consecutivos;

25

La figura 2B muestra un montaje de molde superior y de un molde inferior aunque estando cerrado;

La figura 2C-E muestra algunas etapas del proceso de moldeo sobre un
5 dispositivo de acuerdo con la invención:

La figura 3 muestra una chupeta plana de acuerdo con la invención;

La figura 4 muestra una vista frontal esquemática de un dispositivo de acuerdo
10 con la invención;

La figura 4A y la figura 4B muestran un detalle del sitio de transferencia de los palitos en el dispositivo de la figura 4; y

15 La figura 5 muestra una vista esquemática del incremento de accesibilidad de un dispositivo de empaque en el dispositivo de acuerdo con la invención.

El dispositivo 1 mostrado en la figura 1 es una máquina combinada para elaborar y empaquetar chupeta planas, en las cuales las chupetas planas pueden
20 no solo ser moldeadas sino también empacadas. El dispositivo 1 comprende un tambor 2, que circula de la dirección B, y está provisto con una serie circunferencial de moldes 3 para la elaboración de chupetas rellenas planas L (figura 3), cuyos moldes 3 están formados por una serie continua circulante de moldes inferiores 3a, y una serie de moldes superiores 3b, dispuestos cada una
25 en forma escalonada medio inclinada con respecto a los moldes inferiores 3a y blasagrados alrededor de un eje tangencial propio T. Del dobléz hacia debajo de

los moldes superiores 3b hacia los moldes inferiores 3a y levantándolos de nuevo tiene lugar de una manera controlada por el medio de guías permanentes, tales como las guías 41, 42 (figura 1A), ubicadas a lo largo de la circunferencia del tambor 2.

5

Sobre el exterior de la pared del tambor 10, considerado e dirección axial sobre cualquier lado de los moldes inferiores 3a, alineados con este, se han dispuesto canales orientados axialmente, y denominados canales amplos 8 al lado del molde inferior 3a cerca de la bisagra de los miembros de molde superior 3b, y e
 10 los cuales los pasadores de prensa de molde 7 son deslizables axialmente, cuyo pasador de prensa de molde 7 es conformado similar a la cavidad de molde 3 formado por los miembros 3a, 3b, así como las ranuras estrechas 11, en las cuales los palitos 9 vienen desde un soporte de palito 40 a un para ser discutido son axialmente deslizables, con el fin de que cuando los moldes son cerrados
 15 sean presionados en la masa de molde L. Se entenderá que aunque ellos no son mostrados, los medios están presentes para mover los pasadores de prensa 7 y los palitos 9 que son conocidos per se en las máquinas para elaborar chupetas redondas.

20 Los moldes superiores 3b son más claramente mostrados en las figuras 1B-D, formados para uso sobre un tambor suministrados con moldes inferiores. Los moldes superiores 3b están en un extremo suministrados con un plato erguido 110, en cuyo de hueco de bisagra 111 han sido hechos. La cosilla 44 que separa a ambos miembros de molde tiene una parte alta y una parte baja, separada
 25 una de la otra por el escalón 33b. En el otro extremo los miembros de molde están terminados por un plano suavemente curvado 113 y 114. En la sección

transversal en la figura 1B puede verse que los miembros de molde se conectan a la costilla 44 por planos curvados. Como resultado de las curvaturas del tambor y la orientación inclinada de los moldes inferiores consecutivos como resultado de dicha curvatura, los planos superiores rectos para ambos miembros
5 de molde son inclinados uno con respecto al otro.

En el lado corriente arriba del tambor de molde 2 existe un canal de suministro con forma de U 4 que está ubicado permanentemente sobre la máquina 1 por medio de medios que no son mostrados de manera adicional. Permanentes en
10 la máquina también se encuentran los rodillos de impulsión 5a, 5b impulsados por medios de impulsión que no son mostrados de manera adicional, para impulsar la hebra plana S de confitería para elaborar chupetas en la dirección A. Corriente arriba de los rodillos de impulsión 5a, 5b existe un mecanismo de corte 6a, 6b para cortar a través de la hebra S con el relleno V.

15

En el lado corriente abajo del tambor de molde 2 existe un disco de transferencia 14, el cual (ver figura 4) se ha provisto con espacios de acomodación 15 en los cuales los palillos 9 están cómodamente acomodados. Para mantener los palillos en los espacios de acomodación 15 se suministran
20 una o más platos guía 16 los cuales con su borde 17 que enfrenta el disco 14 están situados a corta distancia, adecuados para ese fin, desde el borde circunferencial del disco 14. El disco 14 es impulsado en la dirección C. Entre el tambor 2 y el disco 14 existe una guía 70, la cual se extiende entre la circunferencia del tambor de borde 10 en la senda de los palillos 9 con el fin de
25 presionar los palillos 9 hacia fuera de las ranuras 11 y hacia adentro de los espacios de acomodación 15.

Cuando las chupetas no deben ser empacadas o se empacan en cualquier parte, una bandeja de recolección puede ser fácilmente ubicada sobre –y dentro –del sitio del disco de transferencia 14 y sus medios de acompañamiento.

5

Con el fin de evitar que el material de las chupetas L se pegue a los moldes inferiores 3a en el nivel del disco de transferencia 14 o, cuando dicho disco está ausente, el sitio de la descarga de caída a una bandeja de recolección, en la pista interior del tambor 2, una clase de cincel 93 está ubicado de una manera

10 estacionaria fija, cuyo cincel tiene una punta con 94 que esta orientada opuesta al flujo, que se extiende hasta cerca de la senda de las costillas 30. Es especial que ver figura 2A) los moldes formados por los miembros 3a, 3b estén en un ángulo α con la tangente del tambor, y que los planos principales se inclinen hacia arriba en dirección del movimiento. Como resultado el grosor de material

15 de chupetas justo corriente abajo de la costilla 30 es más pequeño de lo que es la cubierta de las áreas salientes. La punta 94 será rápida y efectiva en liberar suficiente fuerza de levantamiento sobre el material de chupeta que la mantiene pegada e el molde inferior 3a. De esta manera casi se excluye que los moldes inferiores todavía llenos 3a sean guiados pasando el sitio donde la hebra S se

20 suministra, y surja una falla debida a material doble.

En la dirección del proceso corriente abajo, el disco de transferencia 14 se conecta a la máquina de empaque 20, cuya máquina 20 comprende medios que no son adicionalmente mostrados para suministrar redes de hojuela de

25 empaque 80^a, 80b, y el transportador 90 mostrado en la figura 4, que comprende una cadena circulante sin fin 21, sobre las cuales abrazaderas 24

que son conocidas per se han dispuesto, y que circulan en la dirección de alrededor de los rodillos 22 y 23, siendo impulsado el rodillo 22.

Las abrazaderas 24 consisten de una primer abrazadera 24a y una segunda
5 abrazadera 24b, cuya abrazadera 24a es rotatable alrededor de un eje Y entre una posición abierta y una posición de enganche y que es presionada por un resorte hacia la posición de agarre, y para abrir es suministrada con un brazo 24c que es operable por medio de medios estacionarios sobre la máquina de empaque de manera conocida per se no mostrada.

10

En el sitio de transición entre el disco 14 y el transportador 90 se dispone un levantador de palitos con forma de plato 18, el cual por medios de resorte 19 suministrados en el sitio de suspensión en su dispositivo es impulsado con resorte hacia el transportador 90 con respecto a las partes estacionarias de la
15 máquina 1. El plato 18 se suministra con un nicho 18b que se extiende hacia dentro del borde 18a, cuyo nicho se extiende en el plano de circulación de las abrazadera 24. El plano de cabeza de entrada 24d del miembro de abrazadera 24a puede como resultado impulsar el plato 18 hacia arriba contra la tensión del resorte y luego correr a través del nicho 18c, mientras el palillo corre hacia
20 arriba sobre el plano 18a.

En razón a que la punta 1a corre hacia arriba, el palillo 9 es impulsado hacia fuera de los espacios de acomodación 15, justo corriente abajo del extremo del borde 17, para impulsar los palillos 9 en abrazaderas abiertas 24 después de lo
25 cual la abrazadera 24a es inmediatamente cerrada. Aunque siendo impulsados hacia fuera de los espacios de acomodación 15 los palillos son sostenidos por el

plano 16a del plato (o platos) 16. En razón a que el plato 18 y así la punta 18a son impulsados con resorte hacia la abrazadera 24, el palillo 9 permanece en contacto con el plano 16a y el movimiento del palillo 9 es perfectamente controlado durante la transferencia de la abrazadera 24.

5

En la vista frontal de la figura 4, el transportador 90 está ubicado antes de un par de rodillos 50 y 60 mostrados en la figura 1. Dicho par de rodillos 50a, b y 60a, b son impulsados en las direcciones E1, E2 y f1, f2, respectivamente. Los rodillos 50a, b tienen cavidades 51 y ranura 52 para acomodar chupetas L con palitos 9 entre ellos. Por medio de perfiles de sello 53, 54 las redes de hijuela 80^a, b introducidas inmediatamente corriente arriba son suministradas con sellos longitudinales. Las cavidades 51 también pueden formar un canal que es continuo en dirección circunferencial.

15 Los rodillos 60a, b están provistos con costillas en medio cuyas cavidades transversales 64 han sido dispuestas. Las costillas o el rodillo 60 tienen dos tiras calentadas 61, y las mismas van por las costillas sobre el rodillo 60b. Las costillas 60a, sin embargo, tienen una tira de yunque 63 entre las tiras calentadas, mientras sobre el rodillo 60b una tira de corte 62 cooperante con esta está presente. Los rodillos 60a, b tienen dispuestos ambos un sello transversal en la red de hojuela combinada 80a, b y los cortan a través. Justo después que el extremo corriente abajo del transportador 90 esta situado donde se suministran los medios que no son adicionalmente mostrados para abrir abrazaderas 24, de tal forma que las chupetas completadas y empacadas se
20 pueden suministrar en la dirección G en un bandeja de recolección que no es adicionalmente mostrada.
25

Adicionalmente de manera particular, como se enuncia en la figura 5, el transportador 90 es inclinable en la dirección L y regresa de nuevo, alrededor de la línea central coincidente con la línea central pivote 21 del rodillo Impulsor 22.

- 5 Después de Inclinarse hacia abajo el transportador 90 de los rodillos 50, 60 ubicados detrás de este, son fácilmente accesibles para actividades de reparación y reemplazo, así como también para reparar fallas. Después de eso el transportador 90 puede ser girado de regreso y asegurado en la posición operacional.
- 10 Adelante será tratado el moldeo de las chupetas L con relleno V.

- En la figura 2A la pared del tambor curvada es mostrada tensionada plana con propósitos de ilustración, mientras que la hebra S también ha sido omitida. Sin embargo, algunos moldes llenos se muestran. También en relación a las figuras
- 15 1 y 1A, la hebra S se suministra sobre el canal 4, mientras los miembros de moldeo superior 3b se inclinan hacia abajo con sus levas 43 sobre la guía 41, hacia el tambor 10, acoplado por la guía 42 en el lado superior. Como se muestra en la figura 2A los miembros de molde superior 3b son por lo tanto presionados hacia abajo en la dirección H. Los miembros de molde superior 3b
 - 20 se suministran con una superficie de molde 45a y una superficie de molde 45b, que son complementarios uno con el otro perteneciendo aún a moldes inferiores consecutivos 3A. Ellos se han separado uno del otro por medio de una costilla filosa 44 que coopera con la costilla 30 que está situada entre los moldes inferiores consecutivos 3a con el fin de cortar a través de la hebra S en ese sitio.

En la figura 2b, la situación de los moldes durante el doblar hacia abajo del molde superior 3b se muestra. El extremo 112 del molde superior 3b es guiado aquí por las varillas 41 y 42 (también ver figura 1A). Se puede ver que la costilla 30 tiene una porción elevada 31 y una porción en nicho 32, separada una de la otra por medios de un escalón levantado 33. La costilla 34 tiene forma complementaria a esta. Por medio del escalón 33 se forma una discontinuidad para dar filo, como resultado de lo cual no solo la acción de corte entre las costillas 30 y 44 durante el cierre de los moldes 3 se mejora fuertemente, sino también en el proceso continuo, como será explicado, el vellón S' que en la práctica por dificultad de cortarse perfectamente, puede siempre ser cortado a través completamente, lo que da como resultado chupetas L que están completamente separados una de la otra.

El presionamiento de los miembros de molde 3b sobre los miembros de molde 3a tiene lugar por medio de una guía de presión permanente 12 (figura 1) ubicada a lo largo de la circunferencia. Durante dicho presionamiento, los primeros pasadores de prensa 7 son presionados en el molde, y después de eso los palillos 9.

Las costillas 44 y 30 se fusionan en las superficies planas 45a, 45b, y así sucesivamente, por vía de superficie de borde convexo. Como resultado el relleno V presente en la hebra S también se separa, aunque también formando una capa de material de cubierta M de la hebra. El resultado es que la chupeta L tiene un relleno V, recubierto en todos los lados por el material de cubierta M (FIGURA 3).

En las figuras 2C-E el proceso de la formación actual de la chupeta L se muestra. En la figura 2B la situación en el momento inmediatamente después de cerrar el molde 3 se muestra. El corte de la porción delantera S' de la hebra S, que posiblemente está aún conectada al resto de la hebra S por vía del vellón, y se acomoda en el molde 3, se sitúa entre los escalones 33a, b y el extremo izquierdo del molde 3. El pasador de prensa 7 es entonces presionado a la derecha, y empuja la masa de la chupeta S' a la derecha, en la cavidad del molde. El vellón posible también se mueve a lo largo aquí, de tal forma que la porción S' del vellón se mueve a lo largo de los escalones 33a, b ver figura 2D.

10 Simultáneamente desde la dirección opuesta se presiona un cuello de chupeta 9 dentro de la cavidad del molde, en la masa de la chupeta entrante S'. Finalmente la situación mostrada en la figura 2E se logra, en la cual la masa de la chupeta S' conformada por presión, de una manera confiable es completamente separada, sin vellón, del resto de la hebra o la siguiente masa

15 de chupeta S' en el molde siguiente. Como resultado se obtienen chupetas suaves en el molde 3, las cuales pueden ser removidas de ellos de una manera confiable.

En la figura 1A un abastecimiento 40 de palitos se muestra adicionalmente, el cual es conocido per se. Lo nuevo es que aun cierto nivel el sensor 47 ha sido ubicado el cual es capaz de detectar que no existen más palitos presentes a ese nivel. Una unidad de control central para el dispositivo 1 (ver figura 1) que recibe señales de, sensor 47 por vía de la línea 101 puede entonces o después de cierta demora, operar la cuchilla 6^a, 6^b, para cortar a través de la hebra S.

25 La hebra S es entonces removida hacia el tambor 2 en tanto está este en acoplamiento con los rodillos ecualizantes y de impulsión, 5a, 5b. El

abastecimiento restante relacionado con el nivel del sensor 47, la velocidad de suministro de la hebra S y el sitio de los rodillos de impulsión 5a, 5b con respecto a la descarga/salida del abastecimiento de palitos se ha ingresado a la unidad de control 100.

5

En la figura 1 se muestra adicionalmente un sensor 48 el cual por vía de la línea 102 está conectado a la unidad de control central 100 y es permanentemente ubicado en el dispositivo 1 para detectar la presencia de hebra de chupeta S. Adicionalmente, como se muestra esquemáticamente en la figura 1A, el

10 abastecimiento de palitos 40 se suministra con unos medios de cierre 49, el cual por vía de la línea está conectado a la unidad de control central 100. Cuando el sensor 48 detecta la ausencia de hebra S, la unidad de control 100 es informada de esto. Dicha unidad es programada para activar entonces los medios de cierre 409 por vía de la línea 103, teniendo en cuenta que el extremo saliente de la

15 hebra S necesita para llegar a los moldes 3.

REIVINDICACIONES

1. Dispositivo para elaborar chupetas, que comprenden un suministro estacionario para una hebra de material de chupeta en una condición de sección transversal plana, una serie de moldes de chupeta planos movibles que pasan el suministro de acuerdo a una senda de movimiento, los moldes de chupeta tienen un eje principal y cada uno consiste de un molde inferior y un molde superior, que se puede cerrar sobre el molde inferior aunque cortando una porción delantera de la hebra, el suministro es ubicado para descarga de la hebra en una dirección transversal al eje principal.
2. Dispositivo de acuerdo a la reivindicación 1, los moldes, considerados en un plano de sección transversal al eje principal, siendo inclinados con respecto a la senda de movimiento.
3. Dispositivo de acuerdo a la reivindicación 2, los moldes con sus bordes delanteros en la dirección del proceso estando situados a un mayor nivel que sus bordes salientes en la dirección del proceso.
4. Dispositivo de acuerdo a la reivindicación 1, 2 o 3 suministrados adicionalmente con un pelador estacionario que se extiende desde el lado corriente arriba hasta justo antes de los límites de los moldes inferiores.
5. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, los moldes superiores de cada uno son definidos mediante porciones de conexión de dos miembros de molde superior adyacente, que son

cerrables en sucesión sobre el molde inferior aunque cortando una porción entrante de la hebra. Los miembros de molde superior estando dispuestos escalonado sobre la mitad de un ancho de molde con respecto a los moldes inferiores, los miembros de molde superior estando provistos con una primer
5 costilla de separación orientada hacia el molde inferior, y los moldes inferiores estando separados uno del otro por medio de una segunda costilla de separación, que está ubicada para contacto de cierre con la primer costilla de separación, los miembros de molde superior estando inclinados alrededor de un eje transversal con el eje principal del molde de chupeta desde una posición
10 abierta a una posición cerrada y las costillas de separación siendo capaces de ejecutar una acción de corte una con la otra sobre la hebra, la primera y segundas costillas de separación en la dirección del eje principal estando provistas con discontinuidades correspondientes, verticales tales como escalones.

15

6. Dispositivo de acuerdo a la reivindicación 5, la discontinuidad forma un escalón orientado perpendicular con el eje principal.

7. Dispositivo de acuerdo a la reivindicación 6, la discontinuidad forma un
20 escalón que forma un lado de corte que es sustancialmente tangencial con respecto a la senda de inclinación de los moldes superiores.

8. Dispositivo de acuerdo a la reivindicación 6 o 7, la discontinuidad forma una punta.

25

9. Dispositivo de acuerdo a la reivindicación 6,7 u 8, en la manera usual suministrada con medios activos alejados del eje de inclinación para presionar en la masa de la chupeta en el molde de la dirección del eje principal, la segunda costilla de separación formando una etapa orientada separada del eje de inclinación.
10. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-9, estando la discontinuidad situada aproximadamente a mitad de camino del eje principal del molde.
11. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-10, las costillas de separación siendo formadas suavemente cóncavas.
12. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-11 la segunda costilla de separación comprendiendo una porción inferior y una porción superior separadas por la discontinuidad.
13. Dispositivo de acuerdo a la reivindicación 3 y 12, el pelador extendiéndose en la senda de la porción ubicada inferior de la segunda costilla de separación.
13. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, los moldes superior e inferior estando lateralmente limitados por bordes redondeados que se extienden en la dirección del eje principal, cuyos bordes se funden en la primera y segunda costillas de separación, respectivamente.

14. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, adicionalmente suministrado con medios para presionar la masa de la porción saliente de la hebra acomodada en el molde de la dirección del eje principal, así como también con medios para presionar el palito de chupeta
5 dentro de la masa en una dirección opuesta.

15. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, estando los moldes dispuestos sobre un tambor, los moldes inferiores siendo una parte de la superficie del tambor.

10

16. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, suministrado adicionalmente con un abastecimiento de palitos de chupeta y un sensor de abastecimiento para detectar los palitos en el abastecimiento a un cierto nivel reconocible relacionado con el número de
15 palitos en el abastecimiento, el suministro comprende rodillos de suministro activos sobre la tracción para la hebra, así como también un cortador de hebra ubicado corriente arriba de esta, el sensor de abastecimiento y el cortador de hebra están acoplados a través de una unidad de control que activa el cortador de hebra con un retraso que corresponde al tiempo de procesamiento del
20 número de palitos después de que el sensor de abastecimiento ya no detecta los palitos en el nivel anteriormente mencionado.

17. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 1-15, provisto adicionalmente con un abastecimiento de palitos de chupeta y unos
25 medios de cierre para el abastecimiento, y con un sensor de hebra en el sitio de suministro para detectar una hebra, los medios de cierre para el sensor de

hebra estando acoplados a través de una unidad de control que activa los medios de cierre con un retraso que corresponde al tiempo de paso de la porción o longitud de hebra situada entre los medios de cierre o el punto de descarga de los palitos a los moldes de chupeta y el sensor de hebra.

5

18. Dispositivo de acuerdo a la reivindicación 15, estando el tambor provisto con hendeduras transversales para acomodación de los palitos de chupeta, levantadores de palito estacionarios estando ubicados en una pista del tambor donde los moldes están cerrados y los palitos han sido presionados dentro de la
10 amasa de chupeta, cuyos levantadores de palitos están ubicados para transferir los palitos por medio de fuerza gravitacional a un tambor de transferencia de chupeta ubicada cerca de este y provisto con nichos para los palitos para transferir las chupetas a un transportador de empaque, los levantadores de palito fundiéndose en confinamiento extendiéndose a lo largo de la
15 circunferencia del tambor de transferencia para mantener los palitos en el nicho.

19. Dispositivo de acuerdo a la reivindicación 18, estando el transportador de empaque provisto con abrazaderas de palito, y unos medios de transferencia exteriores y pujados por resorte estando ubicados entre el tambor de
20 transferencia y el transportador, cuyos medios de transferencia empujan los palitos desde el nicho sobre el tambor de transferencia hacia la abrazadera del transportador.

20. Dispositivo de acuerdo a una cualquiera de las reivindicaciones
25 precedentes, provisto adicionalmente con un transportador de empaque que tiene medios para, mientras incluye las chupetas, traer una hojuela superior y

una hojuela inferior una hacia la otra, por encima y por debajo, respectivamente de las chupetas suministradas, y medios para hacer un sello longitudinal sobre cada lado de las chupetas, medios para hacer un sellado transversal sobre cada lado de las chupetas, con medios para separar las
5 hojuelas en el sitio de sellados transversales, los medios para elaborar los sellos transversales y los medios de separación estando provistos sobre el mismo primer par de rodillos cooperantes, ubicados a cada lado de la senda de movimiento de las chupetas y hojuelas, y medios para hacer sellos longitudinales estando provistos sobre un segundo par de rodillos ubicados
10 corriente arriba del primer par de rodillos.

21. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, provistos adicionalmente con un transportador de empaque que tiene un suministro para una hojuela superior y una hojuela inferior, por encima
15 e inmediatamente por debajo, respectivamente, y las chupetas suministradas, y medios para hacer un sello longitudinal sobre cada lado de las chupetas, medios para hacer un sello transversal sobre cada lado de las chupetas, con medios para separar las hojuelas en el sitio de los sellos transversales, el transportador de empaque estando provisto con un cuerpo circulante que tiene sopotes para
20 los palitos de chupeta, así como también un impulso para este, el cuerpo circulante estando dispuesto sobre una estructura que es movable entre una posición adyacente a los medios sellantes para cooperación con este, y una posición removida en la cual los medios sellantes son libremente accesibles.

22. Dispositivo de acuerdo a la reivindicación 21, siendo la estructura pivotable alrededor de un eje que coincide con la impulsión del cuerpo circulante.
- 5 23. Método par hacer chupetas planas que tienen un relleno, siendo una hebra el material de chupetas suministrada a una serie de moldes circulantes, que comprenden una serie circulante de moldes inferiores fijos y circular a lo largo de ellos una serie de moldes superiores que pueden ser abiertos y cerrados, aunque cortando la porción entrante de la hebra necesaria para la
- 10 chupeta en cuestión, la hebra siendo suministrada plana, preferiblemente en una división situada en un plano paralelo al plano de circulación.
24. Método de acuerdo a la reivindicación 23, la hebra plana del material de chupeta comprendiendo un relleno recubierto.
- 15
25. El método de acuerdo a la reivindicación 23 o 24, los moldes inferiores moviéndose de acuerdo a una senda de moldeo y estando una hebra introducida de acuerdo a una senda de introducción que está en un ángulo agudo con la senda de moldeo, considerada en un plano paralelo con la senda
- 20 de moldeo.
26. Método de acuerdo a la reivindicación 25, los moldes inferiores moviéndose de acuerdo a una senda circular.
- 25 27. Método de acuerdo a la reivindicación 24, 25 o 26, los moldes inferiores durante la acomodación de la porción saliente de la hebra siendo mantenidos

Inclinados, preferiblemente inclinados hacia atrás, con respecto a la senda de moldeo.

28. Método de acuerdo a la reivindicación 27, cada molde superior estando
5 provisto con dos miembros de molde superior consecutivos, los cuales uno
después del otro son puestos en acoplamiento con el molde inferior en cuestión,
teniendo lugar el corte por medio de bordes de corte cooperantes tanto en los
miembros de molde superior consecutivos como el miembro inferior, los bordes
de corte cooperantes estando provistos con discontinuidades formadas en el
10 plano del movimiento de corte.

29. Chupeta que tiene una parte de confitería plana y un palito, la parte de
confitería estando provista con un relleno envuelto todo alrededor.

15 30. Chupeta de acuerdo a la reivindicación 28, teniendo el relleno una forma
similar a la parte de confitería.

31. Dispositivo provisto con una o más de las medidas caracterizantes
descritas en la descripción unida y/o mostrada en los dibujos anexos.

20

32. Montaje provisto con una o más de las medidas caracterizantes descritas
en la descripción unida y/o mostrada en los dibujos anexos.

33. Método que comprende una o más de las etapas caracterizantes descritas
25 en la descripción anexa y/o mostrada en los dibujos anexos.

Traducción

TRATADO DE COOPERACIÓN DE PATENTES
PCT

INFORME DE EXAMEN PRELIMINAR INTERNACIONAL
(Artículo 36 y Regla 70 del PCT)

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Referencia del expediente del agente o solicitante PCTP167575A	PARA ACTUACIONES ADICIONALES	Ver notificación de Transmisión del Reporte de Examen Preliminar (Formato PCT/IPEA416)
Solicitud Internacional No. PCT/NL02/00754	Fecha de presentación internacional (día/mes/año) 22.11.2002	Fecha de prioridad (día/mes/año) 22.11.2001
Clasificación Internacional de Patentes (IPC) o clasificación nacional e IPC A23G 3/20		
Solicitante CFS WEERT B.V. et al.		

1. Este informe de examen preliminar internacional ha sido preparado por esta Administración encargada del Examen Preliminar Internacional y se envía al solicitante en concordancia con el artículo 36.
2. Este INFORME consta de una total de 7 hojas, incluyendo la portada
☒ Este informe también se acompaña de ANEXOS, esto es documentos de la descripción, reivindicaciones y/o dibujos que han sido corregidos y que son la base de este informe y/o documentos que contienen rectificaciones realizadas ante esta Administración (Ver Regla 70.16 y Sección 607 de las Instrucciones Administrativas según el PCT)

Estos anexos constan de un total de 7 hojas.

3. Este informe contiene indicaciones relativas a los siguientes aspectos:

- | | | |
|------|-------------------------------------|--|
| I | ☒ | Fundamentos del Informe |
| II | ☐ | Prioridad |
| III | ☒ | No se establece concepto relativo a la novedad, nivel inventivo y aplicación industrial |
| IV | ☒ | Carencia de unidad de la invención |
| V | ☒ | Declaración razonada según el artículo 35(2), en relación con la novedad, nivel inventivo o aplicación industrial; citaciones y explicaciones que soportan dicha declaración |
| VI | ☐ | Ciertos documentos citados |
| VII | ☐ | Ciertos defectos de la solicitud Internacional |
| VIII | ☐ | Ciertas observaciones respecto a la solicitud Internacional |

Fecha de presentación de la demanda 18.06.2003	Fecha de terminación de este reporte 20.02.2004
Nombre y dirección de correo de la autoridad encargada del examen preliminar  Oficina Europea de Patentes D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 apmu d Fax: +49 89 2399 - 4485	Funcionario Autorizado Schmitter, B Teléfono No. +49 89 2399-2520

Formato PCT/IPEA409 (portada) (julio 1998)

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I. Base del Informe

1. Respecto a los elementos de la solicitud internacional (*Las hojas de reemplazo que han sido entregadas a la Oficina receptora en respuesta a la invitación bajo el Artículo 14 se refieren en este informe como "originalmente presentadas" y no se anexan a este informe ya que ellas no contienen modificaciones (Regla 70.16 y 70.17):*

La descripción, Páginas:

1-18 como se presentaron originalmente

Las reivindicaciones, Números:

1-33 recibidas el 25.11.2003 presentadas junto con la carta del 21.11.2003.

Los dibujos, Páginas:

1-18 como se presentaron originalmente

2. Respecto al lenguaje, todos los elementos marcados anteriormente estuvieron disponibles o fueron enviados a la Administración en el lenguaje en que se presentó la solicitud internacional, a menos que se indique otra cosa en este punto.

Estos elementos estuvieron disponibles o fueron enviados a esta Administración en el siguiente lenguaje _____ el cual es:

- ☐ el lenguaje de la traducción enviada para propósitos de la búsqueda internacional (bajo Regla 23.1 (b)).
☐ el lenguaje de la publicación de la solicitud internacional (bajo Regla 48.3(b)).
☐ el lenguaje de la traducción entregada con propósitos del examen preliminar internacional (bajo Regla 55.2 y/o 55.3).

3. Respecto a cualquier secuencia de nucleótido y/o amino ácidos divulgada en la solicitud internacional, el examen preliminar internacional se llevó a cabo con base en el listado de secuencias:

- ☐ contenido en la solicitud internacional en forma escrita
☐ presentado junto con la solicitud internacional en forma legible por computador
☐ entregado posteriormente a esta Administración en forma legible por computador
☐ La declaración de que el listado de secuencias posteriormente entregado no va más allá de lo divulgado en la solicitud internacional originalmente presentada, ha sido entregada.
☐ La declaración de que la información grabada en la forma legible por computador es idéntica al listado de secuencias escrito que se ha entregado.

4. ☐ Las modificaciones han dado como resultado la cancelación de:

- ☐ la descripción, páginas _____.
☐ las reivindicaciones, Nos. _____.
☐ los dibujos, página _____.

5. ☐ Este reporte ha sido establecido como si (parte de) las modificaciones no se hubieran realizado, ya que éstas han sido consideradas como una ampliación de lo inicialmente divulgado como se indica en la Casilla Suplementaria (Regla 70.2(c)).

(Cualquier hoja de reemplazo que contenga dichas modificaciones deberá ser referida bajo el punto 1 y anexada a este informe.)

6. Observaciones adicionales, si es necesario:

Forma PCT/IPEA409 (Enero 2004)

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III. No-establecimiento de opinión con respecto a la novedad, nivel inventivo y aplicabilidad Industrial.

1. La pregunta de si la invención reivindicada parece tener novedad, nivel inventivo (que no sea obvia), o que sea aplicable Industrialmente no ha sido examinada con respecto a:

- ☐ la solicitud Internacional completa
☒ las reivindicaciones Nos. 31-33.

Porque

- ☐ la solicitud Internacional, o las mencionadas reivindicaciones Nos. _____ se relacionan con los siguientes objetos, los cuales no requieren examen preliminar Internacional (*especifique*):
- ☒ la descripción, las reivindicaciones o los dibujos (*indique los elementos particulares abajo*) o las mencionadas reivindicaciones Nos. 31-33 son demasiado confusas que no se puede formar ninguna opinión significativa (*especifique*):

Ver hoja separada

- ☐ la descripción, o las mencionadas reivindicaciones Nos. _____ no están adecuadamente soportadas por la descripción que no se puede formar ninguna opinión significativa.
- ☐ no se ha establecido un reporte de búsqueda para las mencionadas reivindicaciones Nos. _____

2. No se pudo realizar un examen preliminar Internacional significativo debido a fallas en el listado de nucleótidos y/o aminoácidos para dar cumplimiento con los estándares del Anexo C de las Instrucciones Administrativas:

- ☐ El formato escrito no ha sido suministrado o no cumple con los estándares.
- ☐ El formato de lectura por computador no ha sido suministrado o no cumple con los estándares.

IV. Falta de Unidad de Invención

1. En respuesta a la invitación a restringir o pagar tasas adicionales, el solicitante ha:

- ☐ restringido las reivindicaciones.
- ☐ pagado tasas adicionales.
- ☐ pagado tasas adicionales bajo protesta.
- ☐ no ha restringido ni ha pagado tasas adicionales.

2. ☒ Esta autoridad encontró que el requerimiento de unidad de invención no se cumple y elige, de acuerdo a la Regla 68.1, no invitar al solicitante a restringir o pagar tasas adicionales.

3. Esta autoridad considera que el requerimiento de unidad de invención de acuerdo con las Reglas 13.1, 13.2 y 13.3 se

- ☐ cumple.
- ☒ no se cumple por las siguientes razones:

Ver hoja separada

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4. Consecuentemente, las siguientes partes de la solicitud internacional están sujetas al examen preliminar internacional que se establece en este reporte:

- ☒ todas sus partes
- ☐ Las partes relacionadas con las reivindicaciones Nos. _____

V. Declaración motivada según el Artículo 35(2) en cuanto a la novedad, el nivel inventivo y la aplicación industrial; citas y explicaciones que apoyan esta declaración.

1. Declaración

Novedad (N)	Reivindicaciones	1-30	SI
	Reivindicaciones		NO
Nivel inventivo (NI)	Reivindicaciones	2,3,5-13, 18-22, 27,28	SI
	Reivindicaciones	1, 4, 13-17, 13-26, 29, 30	NO
Aplicación industrial (AI)	Reivindicaciones	1-30	SI
	Reivindicaciones		NO

2. Citas y explicaciones (Regla 70.7)

Ver hoja separada

Continuación Ítem III

No-establecimiento de opinión con respecto a la novedad, nivel inventivo y aplicabilidad industrial.

La presente solicitud comprende dos reivindicaciones 13, la segunda no ha sido tomada en cuenta.

Las reivindicaciones 31-33 solo contienen referencias a la descripción y a los dibujos. De acuerdo con la Regla 6.2(a) PCT, las reivindicaciones no deben contener dichas referencias a excepción de que sea absolutamente necesario, el cual aquí no es el caso.

Continuación Ítem IV

Las invenciones separadas son:

Reivindicaciones 1-22: Dispositivo para manufacturar chupetas aplanadas con un palito, con o sin relleno.

Reivindicaciones 23-28: Método para fabricar chupetas que tienen un relleno, con o sin palito.

Reivindicaciones 29, 30: Chupeta que tiene una parte aplanada de confitería con que cuenta con un relleno, la cual puede ser producida por cualquier dispositivo y método.

Ellas no están obviamente tan ligadas para formar siempre un único y general concepto inventivo (Regla 13.1 PCT)

Continuación Ítem V

Declaración motivada según el Artículo 35(2) en cuanto a la novedad, el nivel inventivo y la aplicación industrial; citas y explicaciones que apoyan esta declaración.

Los siguientes documentos son mencionados:

- D1. BE 887 880 A
- D2. US 4 847 090 A
- D3. EP 1 000 551 A
- D4. WO 01/58273 A

1. Reivindicación 1: Documento D3, (ver §3, 4, 22, 34, 35, 39) el cual es considerado como que representa un estado del arte relevante, divulga un dispositivo del cual solo el objeto de la reivindicación 1 difiere en:

→ Una hebra de chupeta en una condición de sección transversal plana, (en D3, ver §3, la sección de la hebra o tira no esta definida),

→ Los moldes son planos.

El objeto de la reivindicación 1 es de esta forma novedoso (Artículo 33(2) PCT).

El problema a resolver por la presente invención puede considerarse como el de producir chupetas planas.

Las chupetas planas parecen ser bien conocidas por una persona versada en la materia. En el documento D1, otra forma diferente a la esférica se menciona explícitamente (Ver p.12, §4).

En D3 la forma de los moldes no está definida y parece obvio que los dibujos de D3 no limitan la forma a una chupeta estrictamente cilíndrica. Como una sección transversal puede ser definida como "plana" (ver también D4, Fig 11d), la solución propuesta en la reivindicación 1 de la presente solicitud no se considera que involucre el nivel inventivo (Artículo 33(3)PCT).

Así, el dispositivo de acuerdo con la reivindicación 1 no alcanza el nivel inventivo.

El objeto de la reivindicación 1 es capaz de funcionar, puede ser manufacturado, y así se observa que es industrialmente aplicable.

2. Las soluciones propuestas en las reivindicaciones 2, 3, 5-13, 18-22 se considera que sí alcanzan el nivel inventivo (Artículo 33(3) PCT).
3. Las soluciones propuestas en las reivindicaciones 4, 13-17 no se consideran inventivas si solo dependen de la reivindicación 1, debido a que se relacionan con características conocidas en el estado del arte o son obvias para una persona conocedora para resolver problemas diferentes.
4. La reivindicación 23: El documento D3, divulga un método a partir del cual el objeto de la reivindicación 23 difiere solo en:

→ Se proporciona el llenado

→ Se alimenta una hebra plana.

(las características que siguen al "preferiblemente" son opcionales y no han sido consideradas).

La solución propuesta en la reivindicación 23 de la presente solicitud no puede considerarse inventiva (Artículo 33(3) PCT) debido a que cualquier inclusión de, por ejemplo, maíz (Ver D2, Fig.12-14) puede considerarse como relleno; en cuanto a la característica "plana" aplica el mismo argumento que para la reivindicación 1.

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5. La solución propuesta en la reivindicación 24 no puede considerarse como que alcanza el nivel inventivo debido a que el relleno envuelto es divulgado en D4.
6. Las soluciones propuestas por las reivindicaciones 24 y 26 de la presente solicitud no pueden considerarse como inventivas debido a que es conocido a partir de D1.
7. Las soluciones propuestas por las reivindicaciones 27 y 28 de la presente solicitud no pueden considerarse como alcanzan el nivel inventivo (Artículo 33(3)PCT).
8. Reivindicaciones 29 y 30:

El término "simple" concierne al llenado no es claro y ha sido Interpretado como una única pieza de llenado.

El documento D4 (ver p.4, líneas 2-8, Fig. 11d), divulga como un dispositivo a partir del cual el objeto de la reivindicación 29 solo difiere en que proporcione un palito.

Las soluciones propuestas por las reivindicaciones 29 y 30 de la presente solicitud no pueden considerarse como que alcanzan el nivel inventivo (Artículo 33(3) PCT) debido a que la inclusión de un palito en el producto de confitería de D4 parece obvio y bien conocido, y siendo la forma del relleno como por lo menos parcialmente similar al de la parte del confite.

PRP/WPC14319/ID-000006

REIVINDICACIONES CO

1. Dispositivo para elaborar chupetas con palillo, que comprenden un suministro estacionario para una hebra de material de chupeta en una condición
5 de sección transversal plana sustancialmente rectangular, una serie de moldes de chupeta planos movibles que pasan el suministro de acuerdo a una senda de movimiento, moldes de chupeta tienen un eje principal paralelo a cada palito y transversal a la senda de movimiento, cada uno consiste de un molde inferior y un molde superior, en el que el molde superior es movable y se puede cerrar
10 sobre el molde inferior aunque cortando una porción delantera de la hebra, el suministro es ubicado para descarga de la hebra en una dirección transversal al eje principal del molde.
2. Dispositivo de acuerdo a la reivindicación 1, los moldes, considerados en
15 un plano de sección transversal al eje principal, siendo inclinados con respecto a la senda de movimiento.
3. Dispositivo de acuerdo a las reivindicaciones 1 o 2, los moldes con sus bordes delanteros en la dirección del proceso están situados a un mayor nivel
20 que sus bordes salientes en la dirección del proceso.
4. Dispositivo de acuerdo a las reivindicaciones 1, 2 o 3 suministrados adicionalmente con un pelador estacionario que se extiende desde el lado corriente arriba hasta justo antes de los límites de los moldes inferiores.

5. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, los moldes superiores de cada uno son definidos mediante porciones de conexión de dos miembros de molde superior adyacente, que son cerrables en sucesión sobre el molde inferior mientras cortan una porción entrante de la hebra, los miembros de molde superior están dispuestos escalonados sobre la mitad de un ancho de molde con respecto a los moldes inferiores, los miembros de molde superior están provistos con una primera costilla de separación orientada hacia el molde inferior, y los moldes inferiores estando separados uno del otro por medio de una segunda costilla de separación, que está ubicada para contacto de cierre con la primer costilla de separación, los miembros de molde superior están inclinados alrededor de un eje transversal con el eje principal del molde de chupeta desde una posición abierta a una posición cerrada y las costillas de separación son capaces de ejecutar una acción de corte una con la otra sobre la hebra, la primera y segundas costillas de separación en la dirección del eje principal están provistas con discontinuidades correspondientes, verticales tales como escalones.

6. Dispositivo de acuerdo a la reivindicación 5, la discontinuidad forma un escalón orientado perpendicularmente con el eje principal.

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7. Dispositivo de acuerdo a la reivindicación 6, la discontinuidad forma un escalón que forma un lado de corte que es sustancialmente tangencial con respecto a la senda de inclinación de los moldes superiores.

8. Dispositivo de acuerdo a la reivindicación 6 o 7, la discontinuidad forma una punta.

9. Dispositivo de acuerdo a la reivindicación 6,7 u 8, en la manera usual suministrada con medios activos alejados del eje de inclinación para presionar en la masa de la chupeta en el molde de la dirección del eje principal, la
5 segunda costilla de separación forman una etapa orientada separada del eje de inclinación.
10. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-9, estando la discontinuidad situada aproximadamente a mitad de camino del eje
10 principal del molde.
11. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-10, las costillas de separación siendo formadas suavemente cóncavas.
- 15 12. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 5-11 la segunda costilla de separación comprende una porción inferior y una porción superior separadas por la discontinuidad.
- 20 13. Dispositivo de acuerdo a la reivindicación 4 y 12, el pelador extendiéndose en la senda de la porción ubicada inferior de la segunda costilla de separación.
14. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, los moldes superior e inferior estando lateralmente limitados por bordes redondeados que se extienden en la dirección del eje principal, cuyos
25 bordes se funden en la primera y segunda costillas de separación, respectivamente.

15. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, adicionalmente suministrado con medios para presionar la masa de la porción entrante de la hebra acomodada en el molde en la dirección del eje principal, así como también con medios para presionar el palito de chupeta
5 dentro de la masa en una dirección opuesta.

16. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, estando los moldes dispuestos sobre un tambor, los moldes inferiores siendo una parte de la superficie del tambor.

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17. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, suministrado adicionalmente con un abastecimiento de palitos de chupeta y un sensor de abastecimiento para detectar los palitos en el abastecimiento a un cierto nivel reconocible relacionado con el número de
15 palitos en el abastecimiento, el suministro comprende rodillos de suministro activos sobre la tracción para la hebra, así como también un cortador de hebra ubicado corriente arriba de esta, el sensor de abastecimiento y el cortador de hebra están acoplados a través de una unidad de control que activa el cortador de hebra con un retraso que corresponde al tiempo de procesamiento del
20 número de palitos después de que el sensor de abastecimiento ya no detecta los palitos en el nivel anteriormente mencionado.

18. Dispositivo de acuerdo a una cualquiera de las reivindicaciones 1-16, provisto adicionalmente con un abastecimiento de palitos de chupeta y unos
25 medios de cierre para el abastecimiento, y con un sensor de hebra en el sitio de suministro para detectar una hebra, los medios de cierre para el sensor de

hebra estando acoplados a través de una unidad de control que activa los medios de cierre con un retraso que corresponde al tiempo de paso de la porción o longitud de hebra situada entre los medios de cierre o el punto de descarga de los palitos a los moldes de chupeta y el sensor de hebra.

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19. Dispositivo de acuerdo a la reivindicación 16, estando el tambor provisto con hendeduras transversales para acomodación de los palitos de chupeta, levantadores de palito estacionarios estando ubicados en una pista del tambor donde los moldes están cerrados y los palitos han sido presionados dentro de la
10 masa de chupeta, cuyos levantadores de palitos están ubicados para transferir los palitos por medio de fuerza gravitacional a un tambor de transferencia de chupeta ubicada cerca de este y provisto con nichos para los palitos para transferir las chupetas a un transportador de empaque, los levantadores de palito fundiéndose en confinamiento extendiéndose a lo largo de la
15 circunferencia del tambor de transferencia para mantener los palitos en el nicho.

20. Dispositivo de acuerdo a la reivindicación 19, estando el transportador de empaque provisto con abrazaderas de palito, y unos medios de transferencia exteriores y pujados por resorte estando ubicados entre el tambor de
20 transferencia y el transportador, cuyos medios de transferencia empujan los palitos desde el nicho sobre el tambor de transferencia hacia la abrazadera del transportador.

21. Dispositivo de acuerdo a una cualquiera de las reivindicaciones
25 precedentes, provisto adicionalmente con un transportador de empaque que tiene medios para, mientras incluye las chupetas, traer una hojuela superior y

una hojuela inferior una hacia la otra, por encima y por debajo, respectivamente de las chupetas suministradas, y medios para hacer un sello longitudinal sobre cada lado de las chupetas, medios para hacer un sellado transversal sobre cada lado de las chupetas, con medios para separar las hojuelas en el sitio de
5 sellados transversales, los medios para elaborar los sellos transversales y los medios de separación estando provistos sobre el mismo primer par de rodillos cooperantes, ubicados a cada lado de la senda de movimiento de las chupetas y hojuelas, y medios para hacer sellos longitudinales estando provistos sobre un segundo par de rodillos ubicados corriente arriba del primer par de rodillos.

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22. Dispositivo de acuerdo a una cualquiera de las reivindicaciones precedentes, provistos adicionalmente con un transportador de empaque que tiene un suministro para una hojuela superior y una hojuela inferior, por encima e inmediatamente por debajo, respectivamente, las chupetas suministradas, y
15 medios para hacer un sello longitudinal sobre cada lado de las chupetas, medios para hacer un sello transversal sobre cada lado de las chupetas, con medios para separar las hojuelas en el sitio de los sellos transversales, el transportador de empaque estando provisto con un cuerpo circulante que tiene sopotes para los palitos de chupeta, así como también un impulso para este, el cuerpo
20 circulante estando dispuesto sobre una estructura que es movable entre una posición adyacente a los medios sellantes para cooperación con este, y una posición removida en la cual los medios sellantes son libremente accesibles, la estructura se encuentra preferiblemente sobre un pivote en un eje que coincide con el que maneja a el cuerpo circulante.

25

23. Método par hacer chupetas planas que tienen un relleno, siendo una hebra el material de chupetas suministrada a una serie de moldes circulantes, que comprenden una serie circulante de moldes inferiores fijos y circular a lo largo de ellos una serie de moldes superiores que pueden ser abiertos y cerrados, mientras cortan la porción entrante de la hebra necesaria para la chupeta en cuestión, la hebra siendo suministrada plana, preferiblemente en una división situada en un plano paralelo al plano de circulación.

24. Método de acuerdo a la reivindicación 23, la hebra plana del material de chupeta comprendiendo un relleno recubierto.

25. El método de acuerdo a la reivindicación 23 o 24, los moldes inferiores moviéndose de acuerdo a una senda de moldeo y estando una hebra introducida de acuerdo a una senda de introducción que está en un ángulo agudo con la senda de moldeo, considerada en un plano paralelo con la senda de moldeo.

26. Método de acuerdo a la reivindicación 25, los moldes inferiores moviéndose de acuerdo a una senda circular.

20

27. Método de acuerdo a la reivindicación 23 a 26, los moldes inferiores durante la acomodación de la porción entrante de la hebra siendo mantenidos inclinados, preferiblemente inclinados hacia atrás, con respecto a la senda de moldeo.

25

28. Método de acuerdo a la reivindicación 27, cada molde superior estando provisto con dos miembros de molde superior consecutivos, los cuales uno después del otro son puestos en acoplamiento con el molde inferior en cuestión, teniendo lugar el corte por medio de bordes de corte cooperantes tanto en los
5 miembros de molde superior consecutivos como el miembro inferior, los bordes de corte cooperantes estando provistos con discontinuidades formadas en el plano del movimiento de corte.

29. Chupeta que tiene una parte de confitería plana y un palito, la parte de
10 confitería estando provista con un relleno envuelto todo alrededor, dicho relleno es singular y se encuentra localizado centralmente en la chupeta.

30. Chupeta de acuerdo a la reivindicación 28, teniendo el relleno una forma similar a la parte de confitería.

15

FORMATO DE DIGITALIZACION
RELACION DE ANEXOS



Royal
Technologies S.A.
Integración de Soluciones Tecnológicas y de Gestión

127

Expediente No		No de unidades	No de Folio
1	CD		✓
2	DVD		
3	REVISTA		
4	LIBRO		
5	PERIODICO		
6	DISQUETES		
7	SOBRE DE MANILA		
8	SOBRE BLANCO TAMAÑO CARTA	✓	✓
9	SOBRE BLANCO TAMAÑO OFICIO		
10	OTROS:		
Observaciones: Contiene Arte Final			

127
128

SUPERINDUSTRIA Y COMERCIO
Radiacion : 04057550 00000000 Folios: 129
Fecha (RMB): 2004-06-18 17:00:41
Tramite : 011 PCT-PATENT 379 FASE NRCI 411 PRESENTAC
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

NIT : 900176089-2

RECIBO OFICIAL DE CAJA : 04 - 45,974
FECHA : JUNIO 8 DE 2004

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	24340346	08/06/2004	32,349,000.00

***** CONCEPTO *****

CANT. RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	422,000.00
	TOTAL :	\$ 422,000.00

SON: CUATROCIENTOS VEINTIDOS MIL PESOS

RESPONSABLE : _____

061014319.841001-9

REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE

PATENTE DE INVENCION

MODELO DE UTILIDAD

USUARIO RADICADOR

- Indicación de que se solicita la concesión de una patente. ()
- Datos de identificación del solicitante o de la persona que se presenta la solicitud. ()
- Descripción de la invención. ()
- Dibujos de ser estos pertinentes. ()
- Comprobante de pago de las tasas establecidas. ()

COMPLETA ()

INCOMPLETA ()

DISEÑO INDUSTRIAL ()

- Indicación de que se solicita el registro de Diseño Industrial ()
- Datos de identificación del solicitante o de la persona que presenta la solicitud. ()
- Representación gráfica o fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño. ()
- Comprobante de pago de las tasas establecidas ()

COMPLETA ()

INCOMPLETA ()

ESQUEMA DE TRAZADO ()

- Indicación de que solicita el registro de un Esquema de trazado. ()
- Datos de identificación del solicitante o de la persona que presenta la solicitud. ()
- Representación gráfica del esquema de trazado ()
- Comprobante de pago de las tasas establecidas. ()

COMPLETA ()

INCOMPLETA ()

Firma Responsable:



Fecha:

2020
Bogotá D C

Doctor(a)
EMILIO FERRERO.
Apoderado(a)

Oficio N°

06635

ASUNTO:	Radicación N°	04-57550
	Solicitud internacional	PCT/NL02/0754
	Fecha inicio fase nacional	21/06/2004
	Trámite	011
	Evento	379
	Actuación	416
	Oficio N°	
	Folios	001

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- La solicitud no contiene copia del documento en que consta la cesión del derecho de patente del inventor al solicitante o a su causante (Art. 26-k) Decisión 486).
- La solicitud no contiene el poder debidamente otorgado, con el lleno de requisitos exigidos por los artículos 63 y subsiguientes del Código de Procedimiento Civil. Adicionalmente deberá presentar el documento que acredita la existencia y representación legal de la sociedad solicitante, cuando éste fuere una persona jurídica.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.


ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones.

El anterior requerimiento fue notificado por fijación en lista de fecha, 16 JUL. 2004
202051



16 JULIO 2004.