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(54) **METHOD OF OBTAINING A CONTINUOUS MESH TUBE WHICH IS USED TO PRODUCE BAGS FOR VEGETABLE AND FRUIT PRODUCTS OR SIMILAR PRODUCTS AND THE TUBE THUS OBTAINED**

VERFAHREN ZUM ERHALT EINES SCHLAUCHS MIT DURCHGEHENDEM NETZ, DER ZUR HERSTELLUNG VON BEUTELN FÜR GEMÜSE ODER FRÜCHTE ODER ÄHNLICHE PRODUKTE VERWENDET WIRD, UND SO ERHALTENER SCHLAUCH

PROCEDE D'OBTENTION D'UNE MAILLE TUBULAIRE CONTINUE PERMETTANT DE FORMER DES SACHETS POUR PRODUITS HORTOFRUTICOLES ET AUTRES PRODUITS SEMBLABLES, ET MAILLE TUBULAIRE OBTENUE A L'AIDE DUDIT PROCEDE

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ES-U- 210 380
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Description

OBJECT OF THE INVENTION

[0001] The present invention refers to a process for obtaining a continuous sheath of mesh for the formation of bags for fruit and vegetable products and the like, and the continuous sheath obtained by means of said process.

[0002] The object of the invention consists of a process for obtaining a continuous sheath longitudinally alternating laminar bands of net mesh with laminar bands of plastic, which act as reinforcement and support for graphic printing, forming a closed sheath in the same operation.

[0003] The invention also concerns the continuous sheath obtained with said process, providing significant cost reduction in terms of materials and process.

BACKGROUND OF THE INVENTION

[0004] Bags for fruit and vegetable products, such as oranges, lemons, potatoes, etc., are already known on the market, constituted of a tubular body of woven or extruded mesh which, once filled, are closed at their ends in the same packaging process.

[0005] This type of bags have the drawback that once they are formed, they do not have sufficient stiffness so as to be supported on their base due to the net structure of the mesh, adopting different shapes according to the packaged product.

[0006] Today, the packer needs for the product bags to have dimensions that are as uniform as possible and a sufficient stiffness for carrying out a good stacking and subsequent palletizing.

[0007] One known solution is that disclosed in EP-A-0 047 544, consisting of providing the tubular band of mesh with two laterally opposing reinforcing laminar bands susceptible to receiving graphic printouts, which bands are externally overlaid and joined at their ends to one another and to the mesh bag, and separated from the bag in the remaining areas.

[0008] The solution disclosed in said patent has the drawback that once the bag is filled, it lacks the consistency and strength necessary for being maintained upright since the flexible laminar reinforcements arranged externally do not affect the net mesh walls. Furthermore, its cost is greater since it uses an entire sheath of mesh, with the excess of material this implies.

[0009] There are other known solutions consisting of the formation of a continuous laminar band closing on itself with the collaboration of a longitudinal sealing line, which laminar band is constituted of three strips of continuous plastic alternated with strips of net mesh.

[0010] This solution has the drawback that the previously made alternated laminar band must be closed on itself prior to the moment of packaging and closing of the bag, therefore the process is equally complex. Furthermore, this solution involves an additional sealing line to join the marginal strips of plastic, which hinders and makes the graphic printout thereof difficult, since three different types of laminar bands of plastic with different printouts must be made.

[0011] Other documents which can be consulted as an exemple are FR-A-2 093 346, US-A-5 823 683, ES-U-1 047 800.

DESCRIPTION OF THE INVENTION

[0012] The process proposed by the invention solves in a fully satisfactory manner the drawbacks set forth above, allowing for obtaining a continuous sheath of mesh for the formation of bags for fruit and vegetable products and the like with maximum utility of the material used and with optimal functional features, i.e. susceptible to receiving a graphic printout and arrangement of a reinforcement maintaining the bag upright for good stacking and subsequent palletizing.

[0013] To this end and more specifically, said process comprises the following phases:

a) longitudinally shifting at an equal rate two C-shaped transversally formed laminar bands of net mesh, in facing parallel positions, with coplanar opposing side walls;
b) externally applying on each pair of opposing and coplanar side walls a laminar band of plastic material, with a width exceeding the separation between said pairs of walls; and
c) longitudinally joining each band of plastic material to the two coplanar side walls on which said band is placed, in order to form a continuous sheath.

[0014] The two C-shaped, transversally formed bands of mesh are obtained from two other flat bands of mesh folded according to two parallel lines close to the longitudinal edges.

[0015] Said C-shaped transverse bands of mesh can also be obtained from a continuous sheath of net mesh, the wall of which is cut according to two diametrically opposing longitudinal lines.

[0016] The obtained continuous sheath of mesh for the formation of bags for fruit and vegetable products and the like is characterized in that it is constituted of four longitudinal bands, two laminar bands of plastic and two laminar bands of net mesh, all arranged in alternating positions, partially overlapped along the length of the strips which are joined to one another to form a continuous sheath, susceptible to being wound once it has been folded.

DESCRIPTION OF THE DRAWINGS

[0017] To complement the description being made and for the purpose of aiding to better understand the features of the invention, according to a preferred practical embodiment thereof, a set of drawings is attached as an

integral part of said description in which, with an illustrative and non-limiting character, the following has been shown:

Figure 1 shows a schematic plan view of the process for obtaining the continuous sheath for the formation of bags for fruit and vegetable products and the like.
Figure 2 shows a schematic profile view of the obtainment process, wherein the arrangement of the different reels of net mesh and of continuous plastic which will form the sheath can be seen.
Figure 3 shows a schematic elevational view of the process for obtaining the sheath using a continuous sheath of net mesh, the walls of which are cut according to two diametrically opposing longitudinal lines.
Figure 4 shows a schematic plan view of the process for obtaining the sheath, corresponding to the previous figure.
Figure 5 shows a cross sectional view of the sheath obtained by means of the process of the invention.

PREFERRED EMBODIMENT OF THE INVENTION

[0018] In view of these figures, it can be observed how the proposed process starts from the use of two reels (1-1'), suppliers of the respective laminar bands of net mesh (2-2'), said reels (1-1') being assembled with their shafts being parallel, so that the bands of net mesh (2-2') run parallelly.

[0019] Said bands of net mesh (2-2') longitudinally move at an equal speed at the entrance of a rectangular-section bedplate (3), preferably of teflon, as a result of the arrangement of several side rollers (4).

[0020] Once the bands of net mesh (2-2') have entered in the bedplate, they are transversally formed into a C shape, in facing parallel positions, partially enveloping the bedplate (3) with the coplanar opposing side walls (15-15'), leaving a separation (5-5') between them.

[0021] Then, respective plastic laminar bands (6-6'), having a width exceeding the separation between said pairs of walls (5-5'), coming from respective reels (7-7'), the upper and lower portions arranged with their shafts being parallel with regard to the bedplate (3), are applied on each pair of opposing and coplanar side walls (15-15').

[0022] With the aid of the rollers (8-8'), the opposing side walls (15-15'), along with those of the plastic bands (6-6'), are immobilized against the bedplate (3) for their subsequent longitudinal joining by means of heat-sealing, through sealing lines (9), the continuous sheath of mesh, shown in cross section in Figure 5, finally being obtained.

[0023] To facilitate handling and transport of the continuous sheath of mesh, it is then folded and rolled, obtaining the reel (10).

[0024] The C-shaped transversally formed bands of mesh are obtained from other such flat bands of mesh which are folded according to two parallel lines close to the longitudinal edges.

[0025] Said C-shaped transversally formed bands can also be obtained from a continuous sheath of net mesh (12), as shown in Figures 3 and 4, by cutting its wall according to two diametrically opposing longitudinal lines with a blade (11).

[0026] Thus, starting from a reel of a continuous sheath of net mesh (12), it is then cut longitudinally, the laminar bands of net mesh (2-2') already obtained being C-shaped and in facing positions, which once they previously spaced, are introduced in the bedplate (3) to follow the previously described obtainment process.

[0027] The continuous sheath of mesh finally obtained by means of said process is constituted of four longitudinal bands, two plastic laminar bands (6-6') and two laminar bands (2-2') of net mesh, all arranged in alternating positions, partially overlapped along the length of strips which are joined to one another to form a continuous sheath, susceptible to being wound once it has been folded.

Claims

1. A process for obtaining a continuous sheath of mesh for the formation of bags for fruit and vegetable products and the like, **characterized in that** it comprises:

   a) longitudinally moving at an equal speed two C-shaped transversally formed laminar bands of net mesh (2,2'), in facing parallel positions, with coplanar opposing side walls;
   b) externally applying on each pair of opposing and coplanar side walls a laminar band (6,6') of plastic material, having a width exceeding the separation between said pairs of walls; and
   c) longitudinally joining (9) each band of plastic material to the two coplanar side walls on which said band is placed, so as to form a continuous sheath.

2. A process according to claim 1, **characterized in that** the two C-shaped transversally formed bands of mesh are obtained from two flat (1,1',2,2') binds of mesh folded according to two parallel lines close to the longitudinal edges.

3. A process according to claim 1, **characterized in that** the two C-shaped transverse bands of mesh are obtained from a continuous sheath (12) of net mesh, the wall of which is cut according to two diametrically opposing longitudinal lines.

4. A continuous sheath of mesh for the formation of bags for fruit and vegetable products and the like, **characterized in that** it is constituted of four longitudinal bands, two laminar bands of plastic (6,6') and two laminar bands of net mesh (2,2'), all arranged in

alternating positions, partially overlapped along the length of strips which are joined to one another for forming a continuous sheath, susceptible to being wound once it has been folded.

Patentansprüche

1. Verfahren zum Erhalten einer kontinulerlichen Netzhülle für die Bildung von Beuteln für Obst- und Gemüseprodukte und dergleichen, **dadurch gekennzeichnet, dass** es umfasst:

   a) longitudinales Bewegen mit gleicher Geschwindigkeit zweier C-förmiger, transversal ausgebildeter laminarer Bänder aus Maschennetz (2, 2'), die sich an einander zugewandten, parallelen Positionen befinden und koplanare gegenüberliegende Seitenwänden aufweisen;
   b) Aufbringen eines laminaren Kunststoffbandes (6, 6'), das eine Breite besitzt, die den Abstand zwischen den Paaren von Wänden übersteigt, von außen auf jedes Paar gegenüberliegender und koplanarer Seitenwände; und
   c) longitudinales Verbinden (9) jedes Kunststoffbandes mit den zwei koplanaren Seitenwänden, an denen das Band angeordnet ist, um dadurch eine ununterbrochene Hülle zu bilden.

2. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** die zwei C-förmigen, transversal ausgebildeten Bänder aus Netzmaterial aus zwei flachen Bändern (1, 1', 2, 2') aus Netzmaterial, die längs zweier paralleler Linien in der Nähe der Längskanten gefaltet sind, erhalten werden.

3. Verfahren nach Anspruch 1, **dadurch gekennzeichnet, dass** die zwei C-förmigen Querbänder aus Netzmaterial aus einer ununterbrochenen Hülle (12) aus Maschennetz erhalten werden, wovon die Wand längs zweier diametral gegenüberliegender longitudinaler Linien ausgeschnitten ist.

4. Ununterbrochene Netzhülle für die Bildung von Beuteln für Obst- und Gemüseprodukte und dergleichen, **dadurch gekennzeichnet, dass** sie aus vier longitudinalen Bändern, zwei laminaren Kunststoffbändern (6, 6') und zwei laminaren Bändern aus Maschennetz (2, 2') gebildet ist, die alle in abwechselnden Positionen teilweise überlappend auf der Länge von Streifen, die miteinander verbunden sind, angeordnet sind, um eine ununterbrochene Hülle zu bilden, die aufgewickelt werden kann, sobald sie gefaltet worden ist.

Revendications

1. Procédé d'obtention d'une maille tubulaire continue permettant de former des sachets pour produits hortofruticoles et autres produits semblables, **caractérisé par le fait qu'**il comprend :

   a) déplacer longitudinalement, à vitesse égale, deux bandes de maille (2, 2') laminaires, formées transversalement en C, en des positions parallèles se faisant face, avec des parois latérales opposées dans le même plan ;
   b) appliquer extérieurement sur chaque paire de parois latérales opposées et dans le même plan une bande laminaire (6, 6') de matériau plastique ayant une largeur excédant la séparation entre lesdites paires de parois ; et
   c) unir longitudinalement (9) chaque bande de matériau plastique avec deux parois latérales dans le même plan sur lesquelles est placée ladite bande, de manière à former une maille tubulaire continue.

2. Procédé selon la revendication 1, **caractérisé par le fait que** les deux bandes de maille formées transversalement en C sont obtenues à partir de deux bandes de maille planes (1, 1', 2, 2') pliées selon deux lignes parallèles près des bords longitudinaux.

3. Procédé selon la revendication 1, **caractérisé par le fait que** les deux bandes de maille transversales en C sont obtenues à partir d'une maille tubulaire (12) dont la paroi est découpée selon deux lignes longitudinal diamétralement opposées.

4. Maille tubulaire continue permettant de former des sachets pour produits hortofruticoles et autres produits similaires, **caractérisée par le fait qu'**elle est constituée de quatre bandes longitudinales, deux bandes laminaires de plastique (6, 6') et deux bandes laminaires de maille (2, 2'), toutes disposées en des positions alternées, à recouvrement partiel le long de la longueur des bandes qui sont unies l'une à l'autre pour former une maille tubulaire continue susceptible enroulée lorsqu'elle a été pliée.

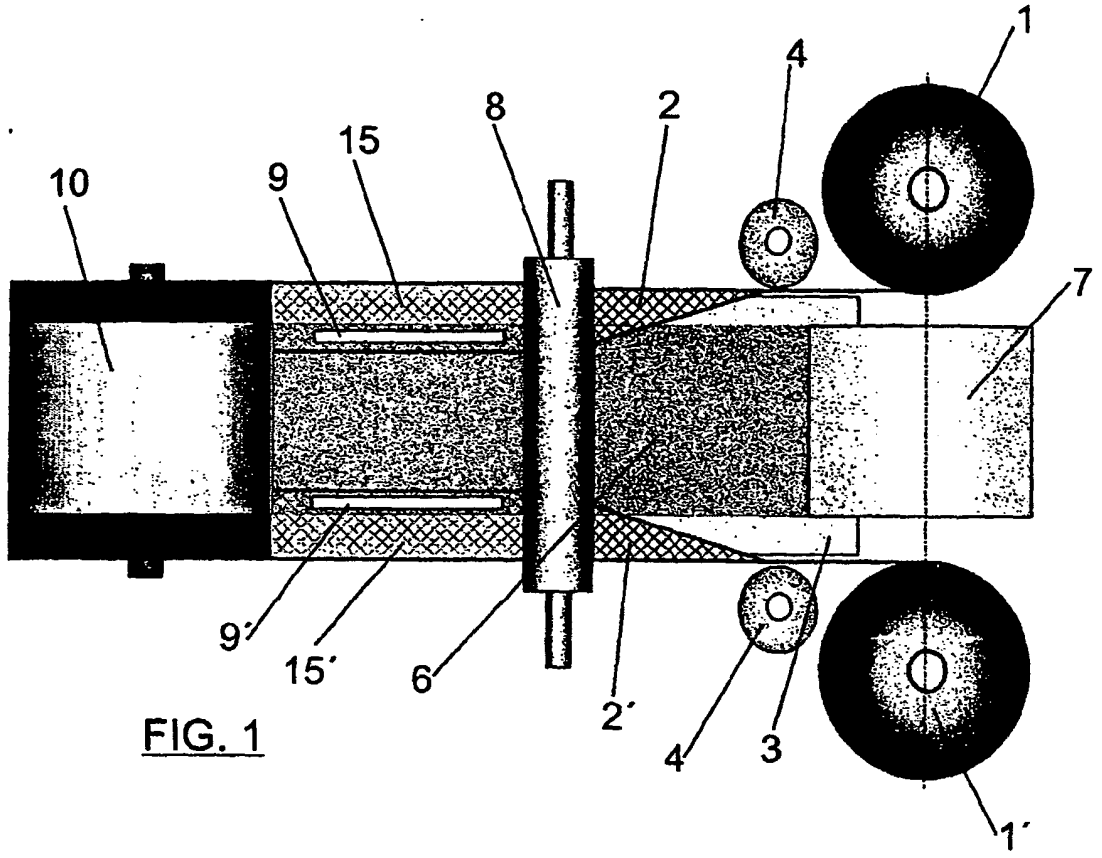

FIG. 1

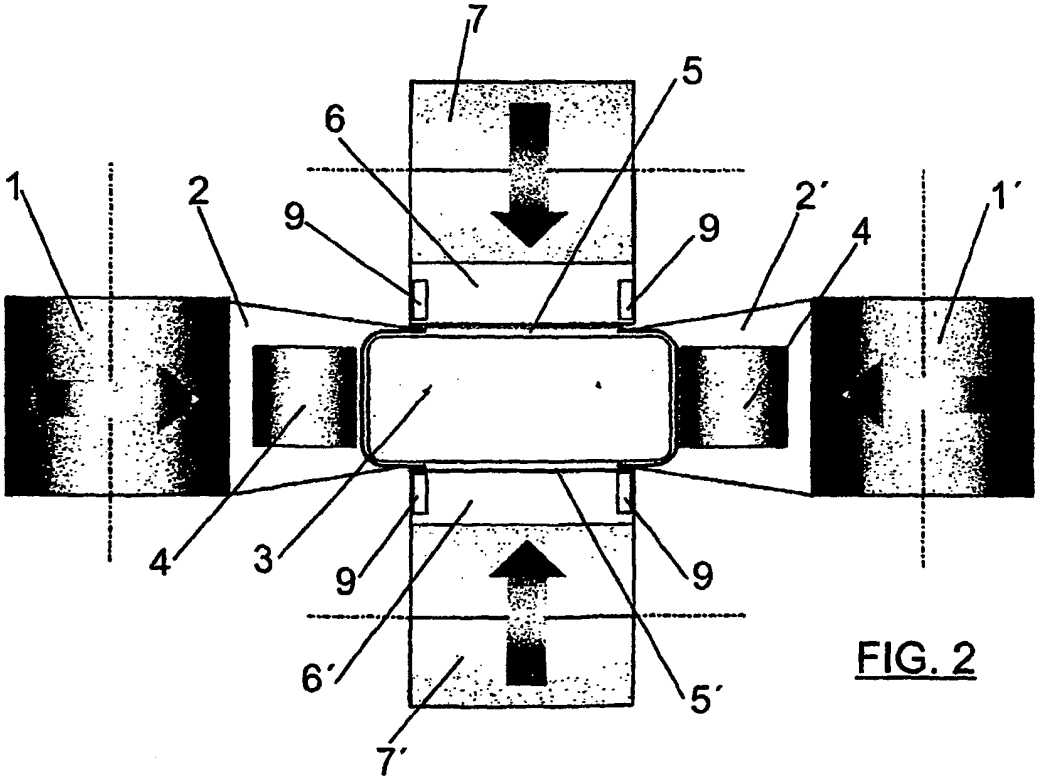

FIG. 2

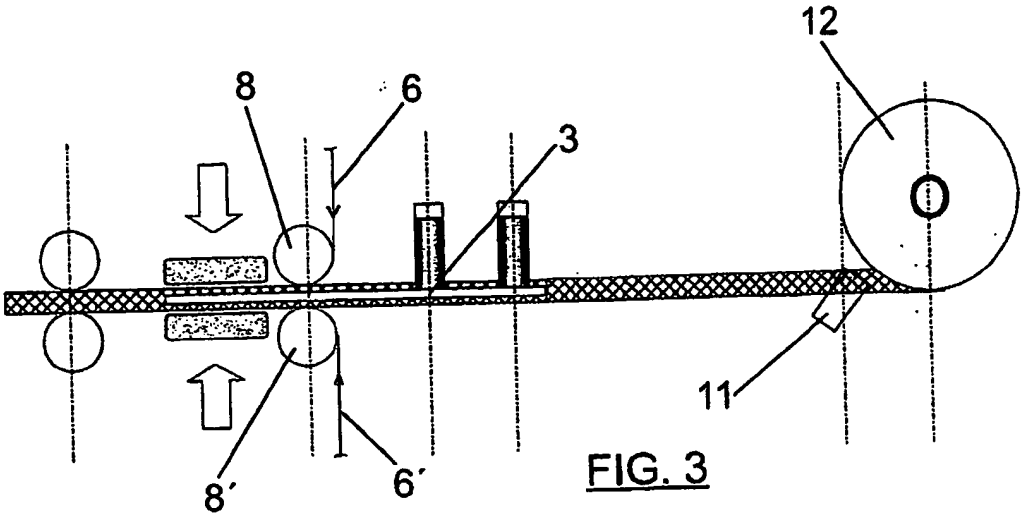

FIG. 3

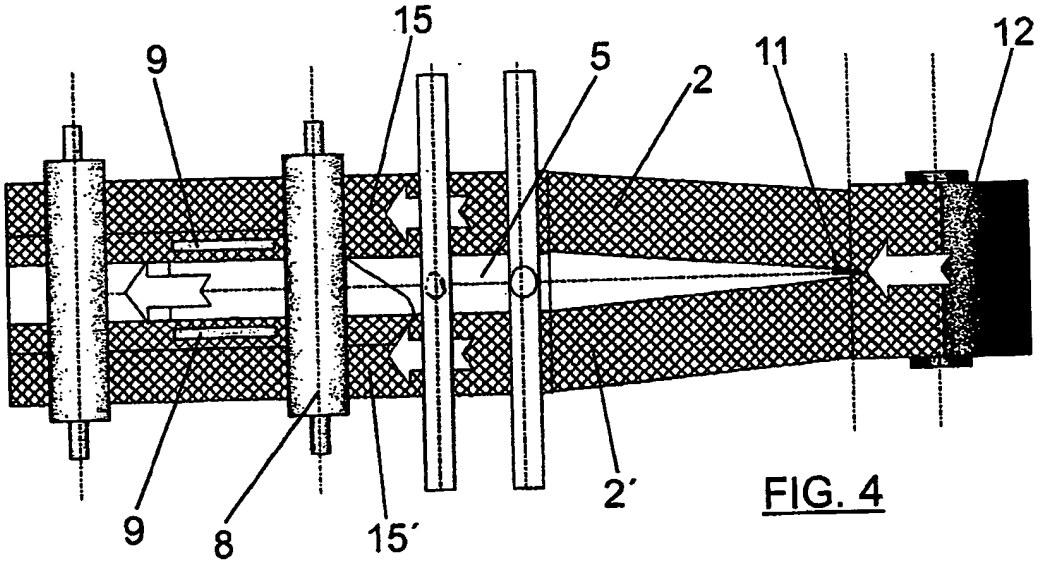

FIG. 4

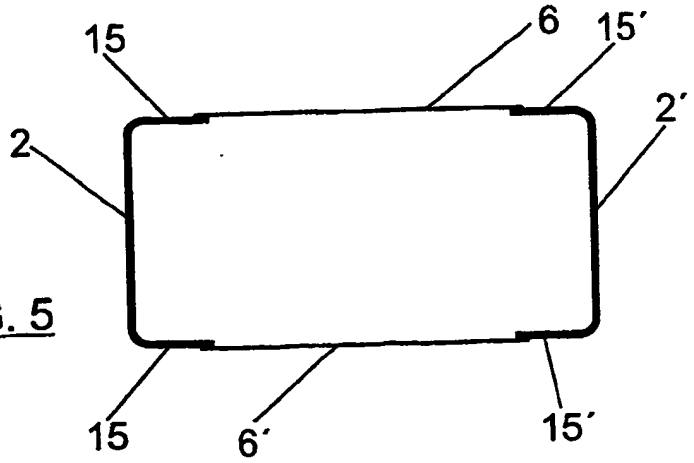

FIG. 5