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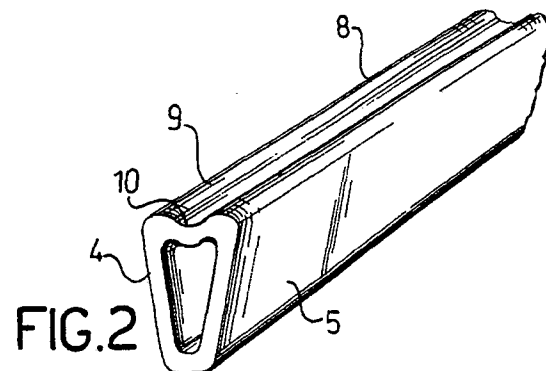
⑦① Applicant: **BARILLA G.E.R. FRATELLI- Società
per Azioni**
Viale Riccardo Barilla, 3/A
I-43100 Parma(IT)

⑦② Inventor: **Bertozzi, Fausto**
Via Duccio Galimberti, 10
I-43100 Parma(IT)
Inventor: **Cantini, Sergio**
Via Torino, 21/2
I-10045 Piosasco - Tornio(IT)
Inventor: **Colombo, Franco**
Via Barrili, 21
I-10134 Torino(IT)

⑦④ Representative: **Vannini, Torquato et al**
JACOBACCI-CASETTA & PERANI S.p.A. 7 Via
Visconti di Modrone
I-20122 Milan(IT)

⑤④ **A barrel structure for supporting long pasta through dryers.**

⑤⑦ A tubular barrel structure (1) is disclosed which has a substantially wing-like cross-sectional shape defining a flat top surface (3) formed longitudinally with a groove (10).



This invention relates to a barrel structure for supporting long pasta through tunnel-type dryers, being of a type which comprises a tubular rod-shaped element having a substantially wing-like cross-sectional shape defining a top surface which spans the full length of said rod-shaped element and being effective to provide support for the long pasta.

The barrels employed to support long pasta, in particular spaghettis, have a sufficiently flattened wing-like cross-sectional shape wherein two identical opposed flat walls are set at equal angles of inclination on a symmetry plane and are interconnected on opposed sides by respective semicircular sections having different diameters.

The filaments of fresh pasta to be dried are laid on the semicircular interconnecting section of larger diameter which forms the top surface of the barrel, and allowed to depend on either sides thereof with vertical sections of the same length which are held away from the opposed (inclined) walls of the barrel thereby affording good ventilation and promoting uniform drying.

On unloading (sliding off) the dried spaghettis from the barrels, they exhibit a U-like shape with very long legs and are cut at the bend to provide perfectly straight segments and meet the requirements of subsequent packaging of the resulting spaghettis inside cases or such like enclosures.

The cut off bent portions of the spaghettis represent a waste which, even for pasta makers of medium size, can attain significant importance and affect the production costs.

The problem that underlies this invention is to provide a barrel structure for supporting long pasta through dryers, whereby the amount of waste produced on cutting the dried spaghettis can be reduced substantially if not altogether eliminated.

This problem is solved according to the invention by a barrel structure as indicated being characterized in that its top surface is made substantially flat.

Advantageously according to a further aspect of this invention, the flat top surface of said barrel is connected to the opposed walls thereof by curved, preferably circular arc-shaped, connecting portions.

According to another aspect of this invention, the top surface of the barrel has at least one recess defining a groove.

The advantages and features of a barrel structure for supporting long pasta according to the invention will become more clearly apparent from the following detailed description of some embodiments thereof, given with reference to the accompanying illustrative and non-limitative drawings, where:

Figure 1 shows schematically in perspective

a barrel structure according to the invention,

Figure 2 shows a modified embodiment of the barrel structure according to the invention,

Figure 3 is an enlarged scale sectional view of a construction detail of the barrel structure shown in Figure 2,

Figure 4 shows schematically in section a barrel structure according to the invention compared to a conventional barrel structure.

With reference to Figure 1, a barrel structure 1, according to the invention, intended for supporting long pasta through tunnel-type dryers, basically comprises a tubular rod-shaped element 2 having a substantially wing-like cross-sectional shape which defines a flat top surface 3 extending over the entire length of said rod-shaped element 2 and being adapted to provide support for the long pasta as the latter is being dried.

The flat top surface 3 is connected to the opposed walls 4, 5 of the barrel structure 2 by curved, preferably circular connecting portions having an appropriate radius of curvature. The radius of curvature is selected such that a filament of long pasta (fresh spaghetti) resting on the top surface of the barrel structure 2 will undergo no breakage or weakening at said connecting portions during the drying process.

Figure 2 shows a modified embodiment of the barrel according to the invention, wherein similar components to those of the barrel shown in Figure 1 are denoted by the same reference numerals.

In the embodiment of Figure 2, a barrel structure 8 according to the invention has a top surface 9 formed longitudinally with a recess 10 which defines a central groove spanning the full length of the barrel. Preferably, said recess 10 is made curvilinear to a circular arc of appropriate radius. According to one aspect of this invention, this recess or groove 10 is suitably radiused to the adjoining portions of the top surface 9, so as not to affect the long pasta structure adversely during the drying thereof.

The primary advantage afforded by the barrel structure 1 of this invention is brought out in the schematical representation of Figure 4, wherein the outline of the top surface 11 of a conventional barrel is shown in phantom lines superposed on the outline of the barrel structure 1.

The substantial reduction in the length of the transition from the semicircular outline 11 to the straight outline 3 (reduction from a semicylindrical top surface to a flat top surface) brings about a substantial reduction of the spaghetti portion to be discarded on completion of the drying process, with an attendant major advantage of an economical, and not only economical character.

In addition, in the modified embodiment shown in Figure 2, the advantage should be added to the

above main advantage that the groove 10 makes for improved ventilation of the long pasta during the drying process; this same groove also forms a rib which strengthens the barrel structure from a strictly mechanical standpoint. The resulting increased stiffness of the inventive barrel structure can be further enhanced by providing cross partitions on the barrel interior which may be lightened by orming holes or apertures therethrough.

Advantageously, the barrel structure of this invention is a composite construction (Figure 3). It comprises, preferably, plural layers of a suitable plastics material, e.g. a core layer 12 of a composite material effective to resist vibration and to impart strength to the structure, such glass fiber reinforced polyester, a further intermediate layer 13 to make the structure stiffer, such as carbon fiber, and a layer 14 of a multidirectional composite material to improve the structure compacting, such as glass-fiber polyester.

Advantageously, the barrel structure 3 has an outer surface coating 15 of a compatible material with food applications having an adequate frictional coefficient to prevent sliding of the long pasta during the drying process. This surface coating may either be an integral part of the barrel or a replaceable sheath through which the barrel can be slid in and out.

The invention as disclosed is susceptible to many changes and modifications without departing from the scope of the inventive concept. Thus, as an example, the top surface of the barrel structure of this invention may be formed with a number of longitudinal grooves, having suitable dimensions and sectional outline, to enhance ventilation of long pasta being dried, as well as the stiffness and deflection of the barrel. The generally wing-like cross-sectional shape of the barrel structure may be varied to suit individual demands, as may be varied the technological and technical expedients arranged to impart special lightweight, handling convenience and the like features to the barrel, as are all within the capabilities of a skilled person in the art.

Claims

1. A barrel structure for supporting long pasta through tunnel-type dryers, comprising a tubular rod-shaped element (2) having a substantially wing-like cross-sectional shape defining a top surface (3) which spans the full length of said rod-shaped element, characterized in that said top surface (3) is made substantially flat.

2. A barrel structure according to Claim 1, characterized in that said flat top surface (3) of said barrel (1) is connected to the opposed walls (4,5)

thereof by curvilinear, preferably circular arc connecting portions (6,7).

3. A barrel structure according to Claim 1, characterized in that said top surface (3) is formed longitudinally with at least one recess defining a groove (10).

4. A barrel structure according to Claim 3, characterized in that said recess (10) spans the full length of said top surface (3).

5. A barrel structure according to Claim 2, characterized in that it comprises plural layers of appropriate plastics materials, a core layer (12) of glass fiber re-inforced polyester, an intermediate layer (13) of carbon or epoxy fiber, an outer layer of polyester fiber re-inforced with isotropically oriented glass fiber.

6. A barrel structure according to Claim 5, characterized in that it comprises a covering sheath (15) of a compatible plastics for food applications and having an adequate frictional coefficient, such as acetalic, polyester and the like resins.

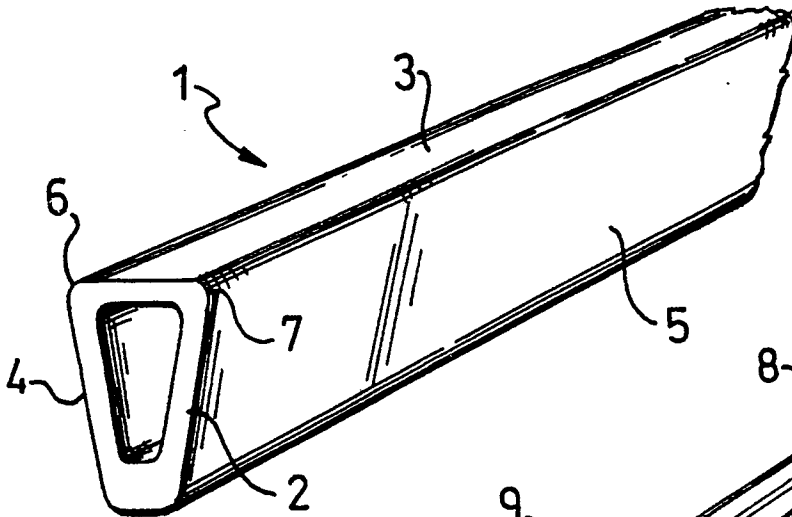


FIG.1

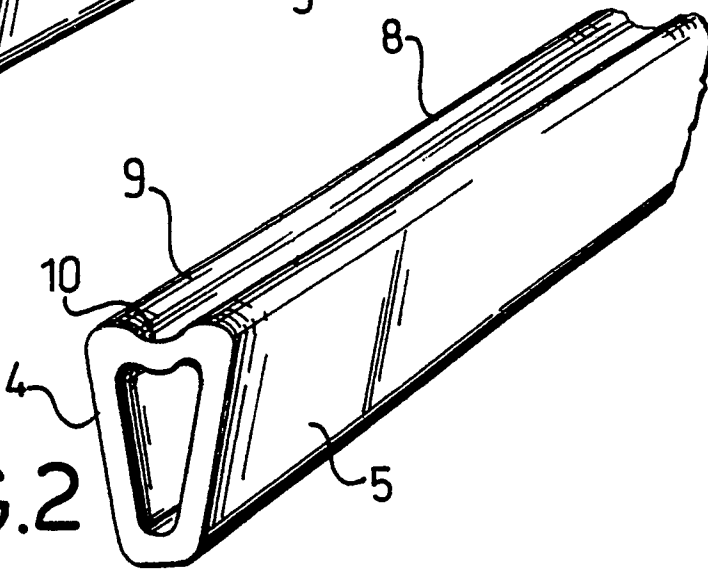


FIG.2

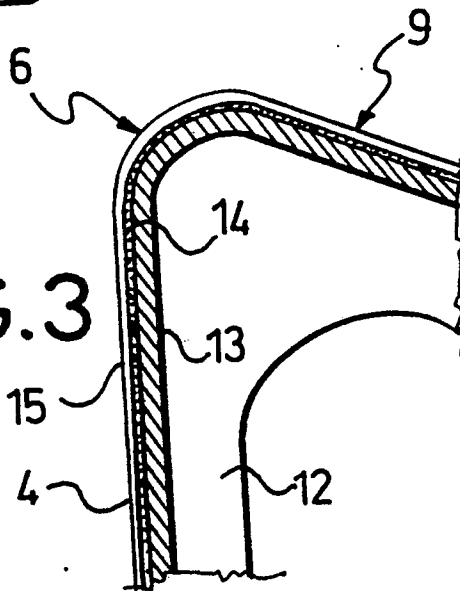


FIG.3

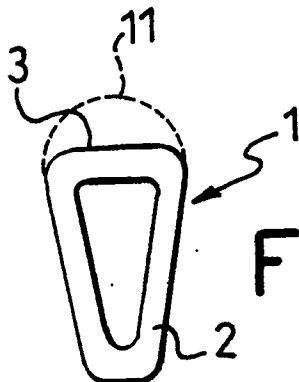


FIG.4