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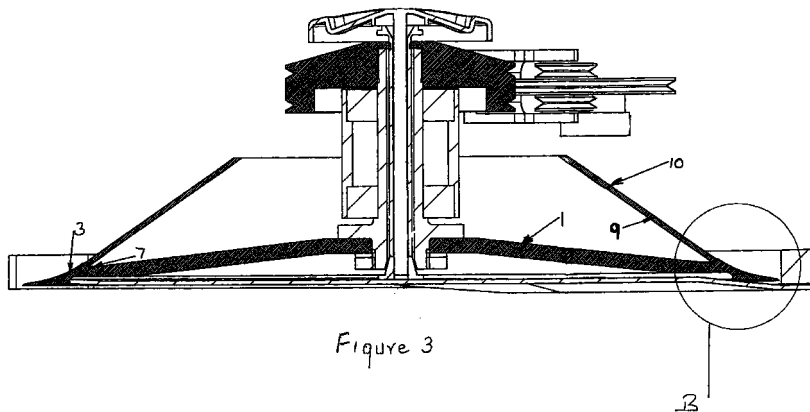
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(54) **Knife assembly**

(57) In a food product slicing machine of the type having a rotating circular knife blade, the knife blade having a substantially flat obverse face and reverse face, the edge of the blade on the reverse face being ground at an angle to produce a cutting edge. The knife blade has a circular recess formed in the reverse face

concentric with the knife blade and a deflector mounted within the recess, the outer surface of the deflector being arranged to be aligned with the reverse face or slightly below the reverse face at the circumference of the recess.



EP 0 974 432 A1

Description

[0001] The present invention relates to a knife on a slicer for food products, the knife having a rotating circular blade and a deflector plate therefor.

[0002] Typically a circular knife blade has a flat obverse face and a reverse face the edge of which is ground at an angle to produce a cutting edge. The obverse face faces towards the bulk of the food product to be cut. A deflector plate, typically formed from sheet metal, is mounted adjacent the reverse face and shaped to follow the contour of the cutting edge so as to remove the sliced product from the knife and deliver it to a receiving position.

[0003] Due to difficulty in consistently positioning the deflector plate sufficiently close to the knife blade, there is a tendency for a slice being cut from the food product to enter the gap between the knife blade and the deflector plate and to as a result become damaged or even to disappear into the gap. Such a problem is especially serious where the slicing process is automatic rather than a manual.

[0004] The object of the present invention is to provide an arrangement of knife blade and deflector plate to obviate this problem.

[0005] According to the present invention there is provided a food product slicing machine of the type having a rotating circular knife blade, the knife blade having a substantially flat obverse face and reverse face, the edge of the blade on the reverse face being ground at an angle to produce a cutting edge; the knife blade bearing a circular recess formed in the reverse face concentric with the knife blade and a deflector mounted within the recess, the outer surface of the deflector being arranged to be aligned with the reverse face or slightly below the reverse face at the circumference of the recess.

[0006] The present invention will now be described, by way of an example, with reference to the accompanying drawings, in which:

Figure 1 shows a cross-section of a knife blade for use in the present invention;

Figure 2 shows the detail A of Figure 1, the area adjacent to the knife edge, adjacent to the edge of the knife blade to an enlarged scale;

Figure 3 shows a cross-section of the knife blade of Figures 1-2 with a deflector fitted; and

Figure 4 shows the detail B of Figure 3 adjacent to the edge of the knife blade to an enlarged scale.

[0007] In none of the drawings is the slicer itself shown, this being of any well-known variant which will accommodate the knife blade and deflector of the present invention.

[0008] The knife blade 1 has an obverse face 2 and a reverse face 3, an angle 4 being ground to form a cutting edge 5.

[0009] A curved profile 6 deflects cut product (not shown) away from the cutting edge 5.

[0010] A circular recess 7 is formed in the reverse face 3 having a wall 8 concentric with the knife blade 1.

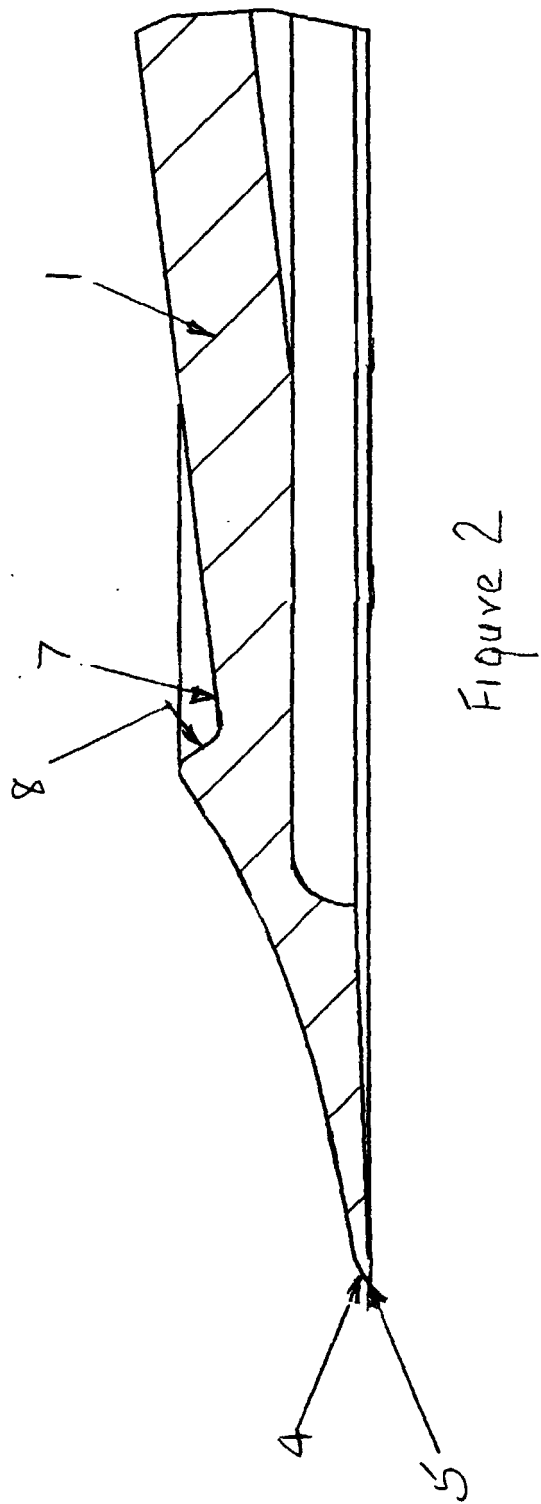
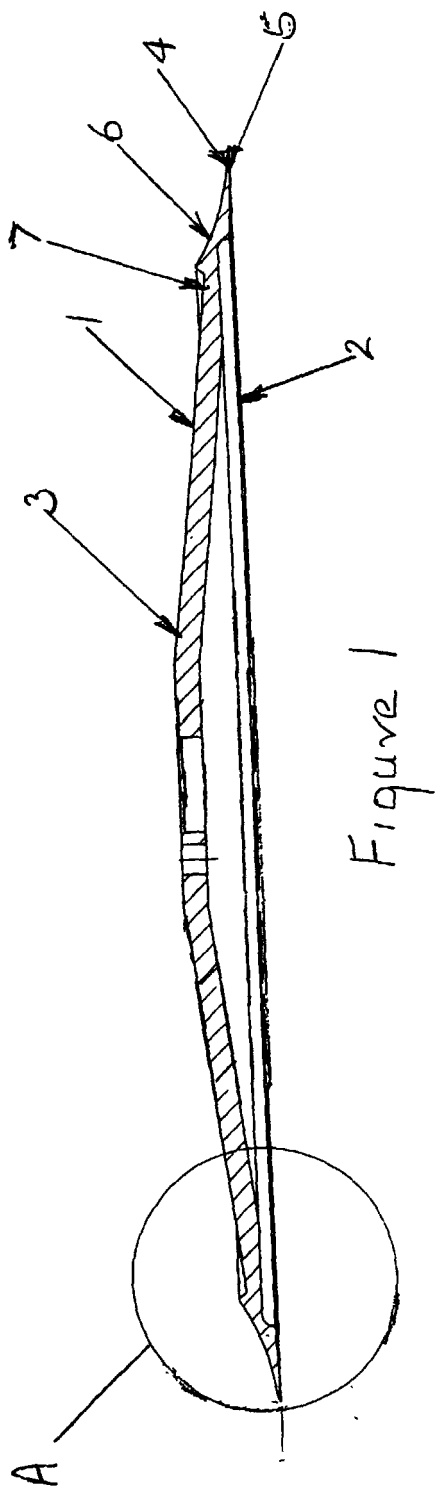
[0011] As shown in Figures 3 and 4 a deflector 9 is fitted within the recess 7, the outer surface 10 of the deflector 9 being formed so as to provide a surface generally continuous with or slightly below the reverse face 3 of the knife blade 1 at the wall 8 of the recess 7.

[0012] The deflector 9 may be either a complete disk as shown or an arcuate sector in the area at which the knife blade cuts the food product.

[0013] The deflector 9 should be mounted rigidly within the recess 7, such as by a support from the slicer or by a bearing on the axis of the knife blade 1.

Claims

1. In a food product slicing machine of the type having a rotating circular knife blade, the knife blade having a substantially flat obverse face and reverse face, the edge of the blade on the reverse face being ground at an angle to produce a cutting edge; the knife blade having a circular recess formed in the reverse face concentric with the knife blade and a deflector mounted within the recess, the outer surface of the deflector being arranged to be aligned with the reverse face or slightly below the reverse face at the circumference of the recess.
2. In a food product slicing machine as claimed in Claim 1, the reverse face of the knife blade adjacent to the cutting edge being curved away from the obverse face.
3. In a food product slicing machine as claimed in Claim 1 or 2, the wall of the recess being substantially normal to the reverse face of the knife blade.
4. In a food product slicing machine as claimed in Claim 3, the edge of the deflector being normal to the outer surface thereof.
5. In a food product slicing machine as claimed in any preceding claim, the deflector being an arcuate sector located adjacent the position on the knife blade at which the food product is to be cut.



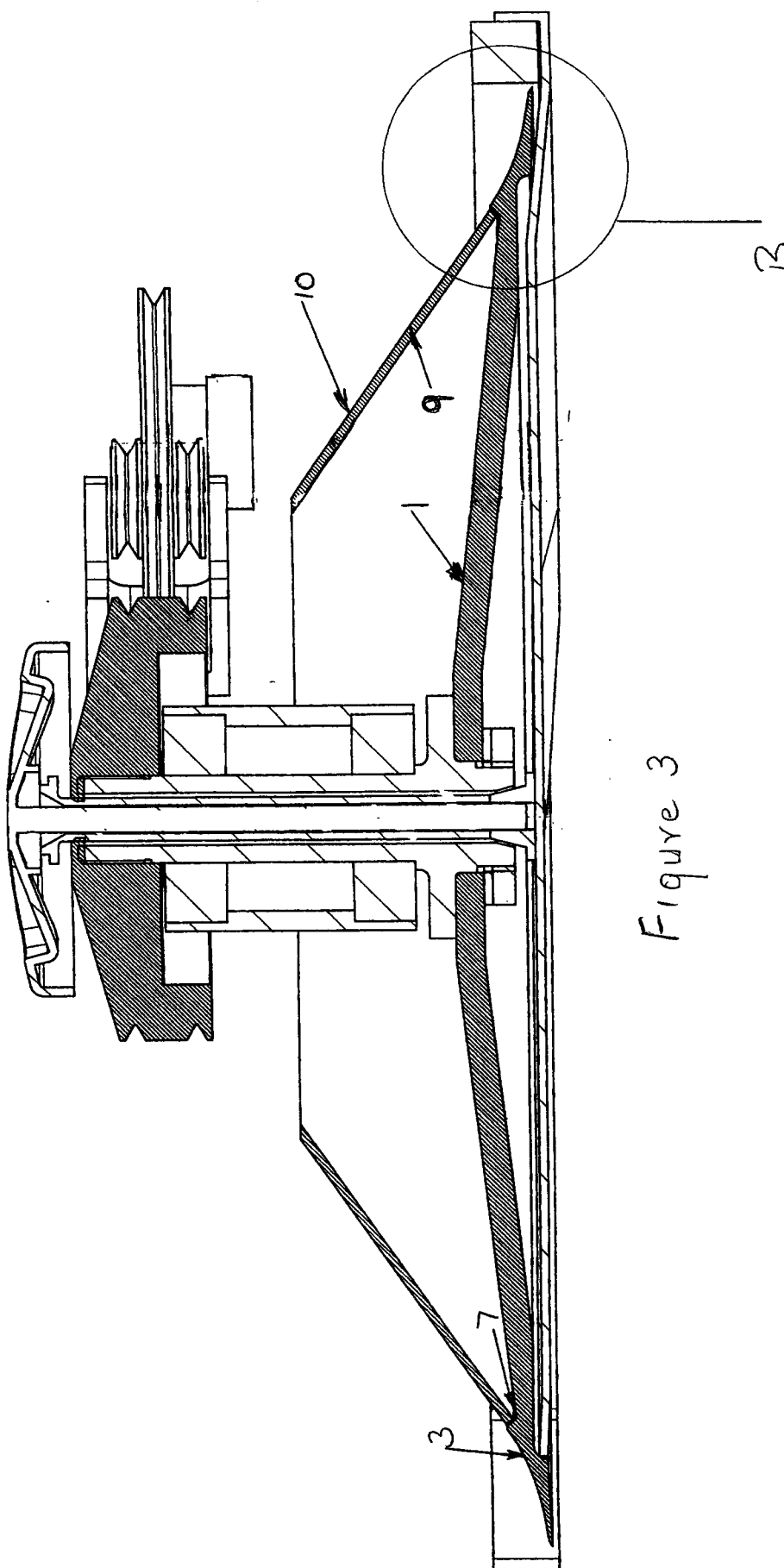


Figure 3

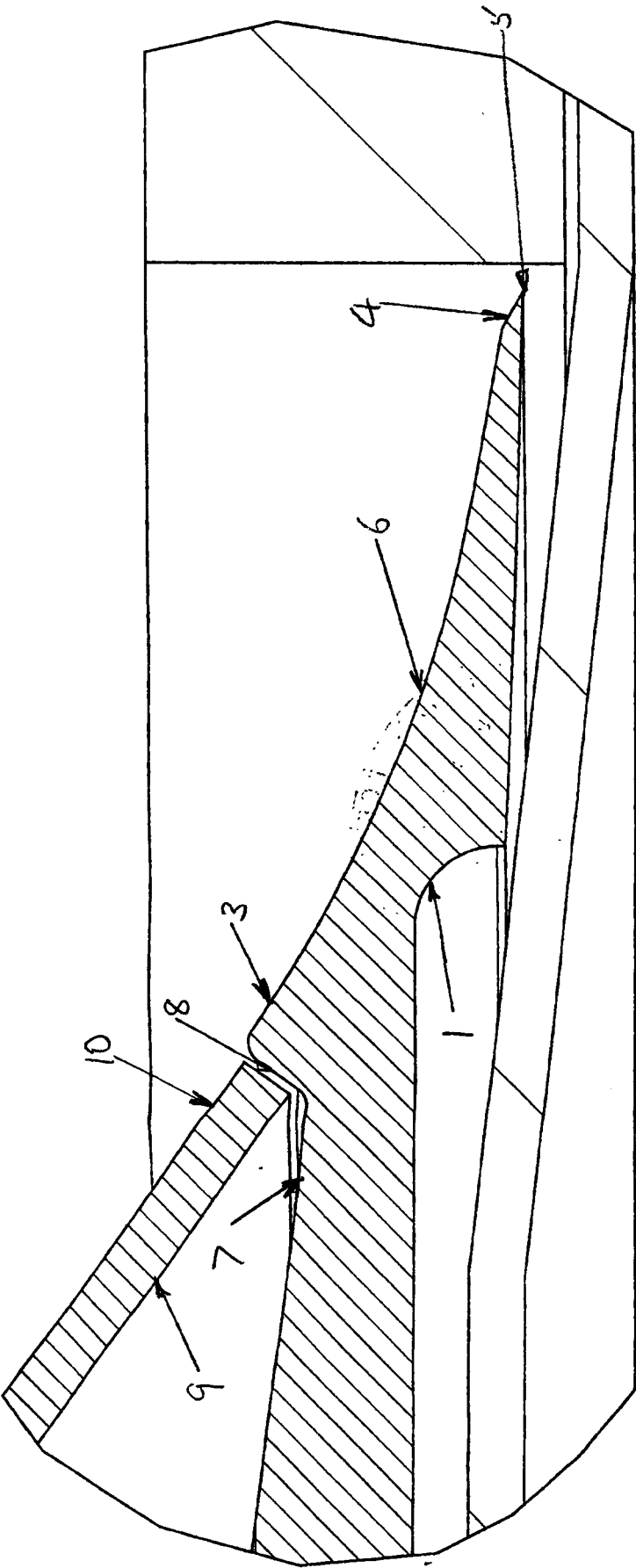


Figure 4



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EUROPEAN SEARCH REPORT

Application Number
EP 99 30 5446

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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Place of search		Date of completion of the search	Examiner
THE HAGUE		19 October 1999	Vaglianti, G
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EP 99 30 5446

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82