**Patent Claims**

1. A method for simultaneously cutting a multiplicity of wafers from an ingot, by the ingot being moved through a wire web of structured sawing wire, which is spanned by two co-rotating wire guide rolls, while a slurry is applied to the wire web, wherein the structuring of the wire consists of a multiplicity of indentations and protrusions of a plain core wire perpendicular to the longitudinal direction of the plain core wire, wherein the structured sawing wire is guided through grooves of the two wire guide rolls, and wherein the bottom of each groove, on which the structured sawing wire bears, is curved with a radius of curvature which for each groove is equal to or up to 1.5 times as large as the radius of the envelope of the structured sawing wire, which the structured sawing wire has in the respective groove, wherein the envelope of the structured sawing wire is defined as that right circular cylinder of the smallest diameter which fully contains the entire structured sawing wire, and wherein the diameter of the envelope of the structured sawing wire corresponds to from 1.02 to 1.25 times the diameter of the plain core wire.

2. The method as claimed in claim 1, wherein the indentations and protrusions point on average over its longitudinal direction in all planes perpendicular to the longitudinal direction and are formed by means of structuring of the plain core wire in a plane perpendicular to the longitudinal direction and torsioning of the structured sawing wire about the longitudinal axis of the structured sawing wire, so that the twisted structured sawing wire resulting in this way has the shape of a helix.

3. The method as claimed in claim 1, wherein the structuring of the wire on average over the longitudinal direction points in all planes perpendicular to the longitudinal direction and is formed with a first amplitude and a first wavelength by means of structuring in a first plane perpendicular to the wire longitudinal direction, and with a second amplitude and a second wavelength by means of structuring in a second plane perpendicular to the wire longitudinal direction and perpendicular to the first plane, and by torsioning of the structured sawing wire about its longitudinal axis.

4. The method as claimed in one of claims 1 to 3, wherein the structured sawing wire is guided spirally under a tension acting perpendicularly to the bottom surface of its envelope in the grooves around the wire guide rolls, in such a way that a plane web of sections of the wire extending parallel to one another is formed between two wire guide rolls.

5. The method as claimed in one of claims 1 to 3, wherein the movement of the wire consists in a continuous progression of pairs of direction reversals, and a pair of

direction reversals respectively comprises a first movement of the wire in a first direction in the wire longitudinal direction over a first length and a subsequent movement of the wire in a second direction, exactly opposite to the first direction, over a second length, and wherein the first length is selected to be greater than the second length.

6. The method as claimed in one of claims 1 to 3, wherein the diameter of the plain core wire is from 130 µm to 175 µm.

7. The method as claimed in one of claims 1 to 3, wherein the shortest distance of each groove from the axis of the wire guide roll is selected in such a way that all points of the envelope with the greatest distance from the axis of the wire guide roll in each groove have the same distance from the axis of the wire guide roll.

8. A wire guide roll for use in a wire saw for simultaneously cutting a multiplicity of wafers from an ingot, comprising a multiplicity of grooves through which structured sawing wire is guided, each groove respectively having a curved groove bottom with a radius of curvature which is given by 1 - 1.5 times a radius of the envelope of the structured sawing wire in the respective groove, wherein the envelope of the structured sawing wire is defined as that right circular cylinder of the smallest diameter which fully contains the entire structured sawing wire, and wherein the diameter of the envelope of the structured sawing wire corresponds to from 1.02 to 1.25 times the diameter of a plain core wire.

9. A wire saw for simultaneously cutting a multiplicity of wafers from an ingot, containing two wire guide rolls as claimed in claim 8, wherein the structured sawing wire is guided spirally under a tension acting perpendicularly to the bottom surface of its envelope in the grooves around the two wire guide rolls in such a way that a plane wire web of sections of the wire extending parallel to one another is formed between the two wire guide rolls, furthermore comprising a feed device for moving the ingot perpendicularly toward the plane of the wire web and through the wire web.