Patent Claims

1. System for dividing silicon blocks (1) into silicon ingots (27) from which wafers are to be produced, comprising:

   a. a holding device (23) in the form of a transport trolley (31) for holding a silicon block (1) to be divided,
   b. a first briquetting machine with a wire web for dividing the silicon block (1) into bars (13), and
   c. a second briquetting machine for dividing the bars (13) into silicon ingots (27) with two partial wire webs, which respectively have several parallel cutting sections, wherein the cutting sections of the partial wire webs extend respectively perpendicular to each other.

2. Method for dividing silicon blocks (1) with a longitudinal direction parallel to a <110>-direction into silicon ingots (27) with a longitudinal direction parallel to a <100>-direction comprising the following steps:

   a. providing a cuboidal silicon block (1) with a longitudinal direction parallel to a <110>-direction,
   b. in a first dividing step (12), dividing the silicon block (1) into at least two bars (13),
   c. turning the bars (13) in a turning step (20) by 90° respectively around a rotational axis (21) extending perpendicular to the longitudinal direction (2) of the block,

d. in a second dividing step (24), dividing the bars (13) into silicon ingots (27) with a longitudinal direction parallel to a <100>-direction,

e. wherein in the first dividing step (12) two side slabs (15) are separated from the silicon block (1),

f. wherein in the second dividing step (24) side slabs (28) are separated from the bars (13).

3. Method according to claim 2, **characterized in that**, in the first dividing step (12), the silicon block is divided along several cutting planes (14) extending parallel to the longitudinal direction (2) of the block.

4. Method according to claim 3, **characterized in that**, a cutting plane (14) passes along a middle plane of the silicon block (1).

5. Method according to one of the claims 2 to 4, **characterized in that**, the rotational axis (21) extends respectively parallel to a <110> orientation of the bars (13).

6. Method according to one of the claims 2 to 5, **characterized in that**, in the second dividing step (24), the bars (13) are divided along cutting planes (25) extending parallel to a longitudinal axis of the bars and along cutting planes (26) extending perpendicular to the longitudinal axis of the bars.

7. Method according to one of the claims 2 to 6, **characterized in that**, for the second dividing step (24), a briquetting machine with two wire webs is provided respectively having at least four parallel cutting sections.

8. Method according to one of the claims 2 to 7, **characterized in that**, exclusively vertical cutting planes (14, 25, 26) are provided.

9. Method for producing silicon ingots (27) with longitudinal axes parallel to a <100> direction comprising the following steps:

a. producing a silicon block (1) with a longitudinal direction (2) of the block parallel to a <110> direction,

b. dividing the silicon block (1) according to one of the claims 2 to 8.