CLAIMS

1. A fragmentation system for the electrodynamic fragmentation of material, comprising:

(a) an inlet and comprising at least one outlet for the material;

(b) a transport path leading from the inlet to the outlets for transporting material along the transport path in a transport direction;

(c) a plurality of fractionation sections in a sequential arrangement along the transport path,

(i) wherein each fractionation section comprising a high-voltage pulse source with at least one first electrode and at least one second electrode for generating a high-voltage discharge;

(ii) wherein the high voltage pulse source of each fractionation section operates with operating parameters including at least one of a voltage and a power; and

(iii) wherein magnitude of the operating parameters of the high voltage pulse source of each fractionation section successively decreases over the sequential arrangement of the fractionation sections along the transport path leading from the inlet; and

(d) a selection means for selectively extracting the material as it travels along the transport path in order to channel material and/or fragments of the material having a diameter smaller than a minimum diameter past at least one portion of one of the fractionation sections.

2. The fragmentation system as claimed in claim 1, characterized in that the selection means comprises the first electrode and the second electrode.

3. The fragmentation system as claimed in claim 1 or 2, characterized in that the first electrode and the second electrode form a rail.

4. The fragmentation system as claimed in any of the preceding claims, characterized in that the fractionation section forms an inclined plane sloping downward in the transport direction.

5. The fragmentation system as claimed in any of the preceding claims, characterized in that the first electrode and the second electrode have a longitudinal extent, wherein the first electrode and the second electrode are arranged with the longitudinal extent in the same direction as the transport direction.

6. The fragmentation system as claimed in any of the preceding claims, characterized in that at least two of the electrodes form a chute for the material, said chute sloping downward in the transport direction in relation to the direction of gravity.

7. The fragmentation system as claimed in claim 6, characterized in that a length and/or an inclination angle of at least one of the electrodes of the chute and/or a distance between at least two of the electrodes of the chute are/is variable.

8. The fragmentation system as claimed in any of the preceding claims, characterized by a conveying apparatus for conveying a medium in a media conveying direction in order to support the transport of the material.

9. The fragmentation system as claimed in any of the preceding claims, characterized in that the distance between the first electrode and the second electrode is variable and/or settable.

10. The fragmentation system as claimed in any of the preceding claims, characterized in that the at least one high-voltage pulse source is configured to output a high-voltage pulse having a working voltage of greater than 10 kV as high-voltage discharge.

11. The fragmentation system as claimed in any of the preceding claims, in that the transport path is configured for conveying more than ten tons of the material per hour.

12. The fragmentation system as claimed in any of claims 3 to 11, characterized in that the fractionation section sloping downward as an inclined plane has a slope angle for transporting the material based on a downhill force, wherein the slope angle is settable for the purpose of setting a transport speed for the material along the fractionation section.

13. The fragmentation system as claimed in any of the preceding claims, characterized in that the fractionation section has conveying structures.

14. The fragmentation system as claimed in any of the preceding claims, characterized in that the transport path has at least one sieve structure for extracting fractions of the material.