CLAIMS

1. A method for manufacturing a glass substrate, comprising edge surface processing for processing an edge surface of a glass substrate having main surfaces, wherein the edge surface processing includes edge surface polishing processing for:

forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, and causing the magnetic field lines to hold a magnetic slurry containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines; and

bringing the edge surface of the glass substrate into contact with the mass of the magnetic slurry in a state in which the main surfaces of the glass substrate are inclined with respect to a plane direction orthogonal to directions of the magnetic field lines, and simultaneously polishing both a side wall surface of the edge surface of the glass substrate and at least one of chamfered surfaces between the main surfaces and the side wall surface of the glass substrate,

wherein an inclination angle of the glass substrate is in a range of 10 degrees to 45 degrees.

2. A method for manufacturing a glass substrate, comprising edge surface processing for processing an edge surface of a glass substrate having main surfaces, wherein the edge surface processing includes edge surface polishing processing for:

forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, and causing the magnetic field lines to hold a magnetic slurry containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines; and

bringing the edge surface of the glass substrate into contact with the mass of the magnetic slurry in a state in which the main surfaces of the glass substrate are inclined with respect to a plane direction orthogonal to directions of the magnetic field lines, and simultaneously polishing both a side wall surface of the edge surface

of the glass substrate and at least one of chamfered surfaces between the main surfaces and the side wall surface of the glass substrate,

wherein an inclination angle of the glass substrate is changed during processing.

3. The method for manufacturing a glass substrate according to claim 1, wherein an inclination angle of the glass substrate is changed in a continuous or stepwise manner around a processing portion of the glass substrate.

4. A method for manufacturing a glass substrate, comprising edge surface processing for processing an edge surface of the glass substrate, wherein the edge surface processing includes edge surface polishing processing for forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, causing the magnetic field lines to hold a magnetic slurry containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines, bringing the edge surface of the glass substrate into contact with the mass of the magnetic slurry, and polishing both a side wall surface of the edge surface of the glass substrate and at least one of chamfered surfaces between main surfaces of the glass substrate and the side wall surface, and

a first magnetism generating means for polishing mainly the side wall surface of the glass substrate and a second magnetism generating means for polishing mainly the at least one of chamfered surfaces of the glass substrate are used, and

the first magnetism generating means and the second magnetism generating means are disposed such that directions of magnetic field lines of the first magnetism generating means and the second magnetism generating means are different from each other.

5. A method for manufacturing a glass substrate, comprising edge surface processing for processing an edge surface of the glass substrate, wherein the edge surface processing includes edge surface polishing processing for forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, causing the magnetic field lines to hold a magnetic slurry

containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines, bringing the edge surface of the glass substrate into contact with the mass of the magnetic slurry, and polishing both a side wall surface of the edge surface of the glass substrate and at least one of chamfered surfaces between main surfaces of the glass substrate and the side wall surface, and

a first magnetism generating means for polishing mainly one chamfered surface of the glass substrate and the side wall surface and a second magnetism generating means for polishing mainly another chamfered surface of the glass substrate and the side wall surface are used, and the first magnetism generating means and the second magnetism generating means are disposed such that directions of magnetic field lines of the first magnetism generating means and the second magnetism generating means are different from each other.

6. The method for manufacturing a glass substrate according to claim 4, wherein the second magnetism generating means comprises a magnetism generating means for polishing mainly a chamfered surface between one main surface of the glass substrate and the side wall surface, and a magnetism generating means for polishing mainly a chamfered surface between another main surface of the glass substrate and the side wall surface, and the magnetism generating means are disposed such that the directions of the magnetic field lines of the magnetism generating means are different from each other.

7. The method for manufacturing a glass substrate according to any of claims 1 to 6, wherein

grinding processing for forming both the chamfered surfaces and the side wall surface on the edge surface of the glass substrate is performed before the edge surface polishing processing, and the grinding processing includes grinding processing for causing a grindstone to come into contact with the edge surface of the glass substrate in a state in which a rotation axis of the grindstone is inclined with respect to an axis orthogonal to the main surfaces of the glass substrate, and

grinding the edge surface of the glass substrate.

8. A method for manufacturing a magnetic disk, in which at least a magnetic recording layer is formed on the glass substrate that is manufactured with the method for manufacturing the glass substrate according to any of claims 1 to 7.

9. A device for polishing an edge surface of a glass substrate, which is used in edge surface polishing processing for forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, causing the magnetic field lines to hold a magnetic slurry containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines, bringing an edge surface of the glass substrate into contact with the mass of the magnetic slurry, and polishing both a side wall surface of the edge surface of the glass substrate and at least one of chamfered surfaces between main surfaces of the glass substrate and the side wall surface, and

the device comprises a first magnetism generating means for polishing mainly the side wall surface of the glass substrate and a second magnetism generating means for polishing mainly the at least one of chamfered surfaces of the glass substrate, and the first magnetism generating means and the second magnetism generating means are disposed such that directions of magnetic field lines of the first magnetism generating means and the second magnetism generating means are different from each other.

10. A device for polishing an edge surface of a glass substrate, which is used in edge surface polishing processing for forming magnetic field lines using a magnetism generating means constituted by a pair of magnets disposed facing each other, causing the magnetic field lines to hold a magnetic slurry containing magnetic particles and polishing abrasive particles so as to form a mass of the magnetic slurry along the magnetic field lines, bringing an edge surface of the glass substrate into contact with the mass of the magnetic slurry, and polishing both a side wall surface of the edge surface of the glass substrate and at least one of chamfered surfaces between main surfaces of the glass substrate and the side wall surface, and

the device comprises a first magnetism generating means for polishing mainly one chamfered surface of the glass substrate and the side wall surface and a second magnetism generating means for polishing mainly another chamfered surface of the

glass substrate and the side wall surface, and the first magnetism generating means and the second magnetism generating means are disposed such that directions of magnetic field lines of the first magnetism generating means and the second magnetism generating means are different from each other.