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(54) Title: ELECTROPLATING APPARATUS

(54) 发明名称: 电镀装置

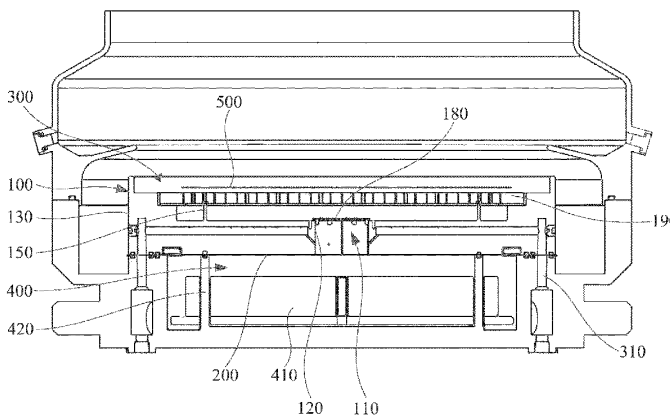


图 5

(57) Abstract: An electroplating apparatus, comprising a membrane frame, wherein the membrane frame comprises a center passage and a center blocking wall defining the center passage, and there is no circle with the center of a substrate as a center in an orthographic projection region of the center blocking wall on a plane where the substrate is located. When the substrate is electroplated in the electroplating apparatus, the trajectory formed by any point in a blocked region of the substrate corresponding to the center blocking wall is a circle with the center of the substrate as a center. Since the center blocking wall is designed such that there is no circle with the center of the substrate as a center in the orthographic projection region of the center blocking wall on the plane where the substrate is located, the rotation trajectory of any point in the blocked region of the substrate corresponding to the center blocking wall would not be completely contained in the range of the orthographic projection region. Therefore, the electric field between any point on the substrate and an anode would not be always blocked by the center blocking wall, and the flow field of an electroplating solution in the blocked region of the substrate would not be significantly reduced. Finally, the sudden change of the electroplated thickness of the

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blocked region of the substrate is greatly weakened, and the change of the electroplated thickness is basically smooth.

(57) 摘要: 一种电镀装置, 包括膜架, 膜架包括中间通道和限定中间通道的中间挡墙, 中间挡墙在基板所在平面的正投影区不存在以基板的中心为圆心的圆。当基板在电镀装置内进行电镀工艺时, 基板上对应中间挡墙的遮挡区域中任意一点形成的轨迹为以基板的中心为圆心的圆, 由于中间挡墙设计为其在基板所在平面的正投影区不存在以基板的中心为圆心的圆, 那么基板上对应中间挡墙的遮挡区域中任意一点的旋转轨迹将不会完全包含在该正投影区范围内, 因此使得基板上任意一点与阳极之间的电场不会始终被中间挡墙所遮挡, 同时基板上该遮挡区域的电镀液流场不会明显减小, 最终基板上该遮挡区域的电镀厚度突变被很大程度的弱化, 电镀厚度变化基本是平滑的。