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The Director

of the United States Patent and Trademark Office has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this United States

Patent

grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.



Katherine Kelly Vidal



DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



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(12) **United States Patent**
Eto

(10) **Patent No.:** **US 12,070,829 B2**

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(54) **ELECTRIC GRINDING MACHINE**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 825 days.

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CPC **B24B 23/02** (2013.01); **B24B 55/05** (2013.01); **B24B 55/102** (2013.01)

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(57) **ABSTRACT**

An electric grinding machine includes a spindle to be driven with a motor; a grinding disc attached to the spindle; a cover covering the grinding disc; a window disposed on the cover to expose an outer circumference of the grinding disc; a hinge mechanism joining the window to the cover so that the window freely moves between an opened position and a closed position, said hinge mechanism having a rotational axis disposed on the cover; a gate protruding from the window and having a cylindrical portion concentric to the rotational axes; a hollowed portion formed in the gate, said hollowed portion forming a passage opening between the cover and the cylindrical portion when the window is closed; a slider disposed on the cover, said slider passes through the passage opening to hold the window in the closed position; and a piston spring urging the slider toward the window.

14 Claims, 13 Drawing Sheets

