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(19) **United States**(12) **Patent Application Publication**
Nishitani et al.(10) **Pub. No.: US 2023/0230794 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **ELECTRON GUN, ELECTRON RAY
APPLYING DEVICE, AND ELECTRON BEAM
PROJECTING METHOD****Publication Classification**(51) **Int. Cl.**
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Sato, Aichi (JP)(21) Appl. No.: **17/996,215**(57) **ABSTRACT**(22) PCT Filed: **Mar. 30, 2021**(86) PCT No.: **PCT/JP2021/013455**

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An object is to provide an electron gun that can extend the lifetime of a photocathode. The object can be achieved by an electron gun including: a substrate having a photocathode film formed on a first face; a light source for irradiating the photocathode film with excitation light; an anode; a heater device for heating the photocathode film and/or the substrate; and an output adjustment device that adjusts a heating temperature of the heater device.

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