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Inoue(10) **Pub. No.: US 2022/0361292 A1**(43) **Pub. Date: Nov. 10, 2022**(54) **HEATING LIGHT SOURCE DEVICE,
HEATING LIGHT SOURCE MODULE AND
OPTICAL HEATING SYSTEM**(52) **U.S. Cl.**CPC *H05B 3/0047* (2013.01); *F21V 29/83*
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H05B 3/02 (2006.01)(57) **ABSTRACT**

A heating light source device includes a plurality of heating light source modules; each of the heating light source modules includes; a light-emitting element substrate having a placement surface and a back side surface, the back side surface being opposite to the placement surface; a plurality of light-emitting elements mounted on the placement surface; and a cooling member being in contact with the back side surface and including a cooling channel formed inside the cooling member and that communicates cooling medium for cooling the light-emitting elements, an inlet port that introduces the cooling medium into the cooling channel, an outlet port that discharges the cooling medium to the outside of the cooling member; and the cooling channel has a spiral shape being gradually from a center portion side of the light-emitting element substrate to a circumferential edge portion side thereof when viewed from a direction orthogonal to the placement surface.

