



(12) **United States Patent**  
**Tanaka**

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(54) **HEAVY DUTY PNEUMATIC TIRE**

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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 249 days.

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(57) **ABSTRACT**

A heavy duty pneumatic tire includes main grooves that extend in the tire circumferential direction. A siped block is provided with at least one sipe to circumferentially subdivide the block into at least two block pieces that include at least one holed block piece provided with at least one small hole. Each small hole extends radially inwardly from the ground contacting surface of the holed block piece to its bottom at a depth in a range of from 30 to 100% of a depth of the main grooves. Each small hole has a round cross-sectional shape to have a maximum radius in a range of from 0.6 to 2.0 mm at the opening of the small hole in the ground contacting top surface. The total opening area of the at least one small hole is 2 to 12% of the overall area of the ground contacting top surface.

(52) **U.S. Cl.**  
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See application file for complete search history.

**11 Claims, 8 Drawing Sheets**

