

Title (en)

RADIATOR OF A MOTOR VEHICLE WITH A PROTECTION DEVICE AGAINST PROJECTED PARTICLES

Title (de)

KÜHLER IN EINEM KRAFTFAHRZEUG MIT EINER SCHUTZEINRICHTUNG GEGEN AUFTREFFENDE PARTIKEL

Title (fr)

RADIATEUR D'UN VEHICULE A MOTEUR AVEC UN DISPOSITIF DE PROTECTION CONTRE L'IMPACT DE PARTICULES

Publication

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Application

EP 98925538 A 19980506

Priority

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- EP 9802653 W 19980506

Abstract (en)

[origin: WO9850751A1] A device is disclosed for protecting the radiator (1) of a motor vehicle against projected particles. The radiator (1) has spaced apart ribbed pipes (2 to 6) for conveying the cooling medium. According to the invention, the ribbed pipe walls, which in the assembled state of the radiator (1) are oriented in the direction of projected particles (arrow 19) and mechanically stressed, are only protected against particle blows by a plating which directly covers them and is mechanically joined thereto without any gap. This plating is preferably a mere material thickening (18) of the ribbed pipes, a bead (21) of elastic material applied on the ribbed pipes and/or a covering strip (23) clipped on the ribbed pipes, several covering strips (23) being appropriately designed as a grid (22).

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F28F 19/00; B60K 11/04

IPC 8 full level

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CPC (source: EP KR)

F28F 19/00 (2013.01 - KR); **F28F 19/002** (2013.01 - EP)

Citation (examination)

- US 3190352 A 19650622 - SIMPELAAR CLYDE S
- US 5042575 A 19910827 - LINDSAY JAMES H [US]

Cited by

DE102017221083A1; EP2495521A1

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AT DE ES FR GB IT PT SE

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WO 9850751 A1 19981112; AT E224527 T1 20021015; BR 9809603 A 20000704; DE 59805617 D1 20021024; EP 0980504 A1 20000223; EP 0980504 B1 20020918; JP 2001527634 A 20011225; KR 20010012282 A 20010215

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