



(12) **United States Patent**
Kobayashi

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(54) **METHOD OF HOT-PRESS FORMING**
ENABLING HARDNESS CONTROL

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72/342.94, 362, 364, 700, 332, 60, 348,
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See application file for complete search history.

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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 400 days.

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(21) Appl. No.: **13/638,952**

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(30) **Foreign Application Priority Data**

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(51) **Int. Cl.**
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(57) **ABSTRACT**

(52) **U.S. Cl.**
CPC **B21D 22/02** (2013.01); **B21D 22/208**
(2013.01); **B21D 37/16** (2013.01); **C21D 1/18**
(2013.01);

A hardenable steel sheet is treated with press-forming by means of a die. The method is comprised of: heating the steel sheet to a temperature of an Ac₃ point or higher; carrying out a primary press on the heated steel sheet so as to give a local strain to a limited part of the steel sheet; keeping the steel sheet in a state apart from the die shortly after the primary press; and carrying out a press on the steel sheet kept in the state and retain the steel sheet in close contact with the die.

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(58) **Field of Classification Search**
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