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Lynch**

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(54) **METHOD AND APPARATUS FOR BONDING
METALS AND COMPOSITES**

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(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(58) **Field of Classification Search**

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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 138 days.

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Related U.S. Application Data

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B32B 3/06 (2013.01); **B32B 3/30** (2013.01);
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(57) **ABSTRACT**

Apparatus, systems and methods for forming a structure that
includes a metal and a composite material are disclosed.
According to one aspect, a layer stack includes a metal layer
with a first surface, the first surface including at least one
protruding feature. The layer stack also includes a non-metal
layer molded to the first surface of the metal layer, wherein
the non-metal layer is molded over and/or around the at least
one protruding feature.

21 Claims, 7 Drawing Sheets

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