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(12) **United States Patent**
Davis et al.(10) **Patent No.:** US 9,267,060 B2
(45) **Date of Patent:** *Feb. 23, 2016(54) **REACTION PRODUCT OF PROPYLENE
POLYMER AND WAX, GRAFT COPOLYMERS
DERIVED FROM POLYPROPYLENE
POLYMER AND WAX, HOT MELT ADHESIVE
COMPOSITIONS INCLUDING THE SAME,
AND METHODS OF USING AND MAKING
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(US)(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 412 days.This patent is subject to a terminal dis-
claimer.

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C09J 123/26 (2006.01)(52) **U.S. Cl.**
CPC **C09J 123/26** (2013.01); **Y10T 428/31808**
(2015.04)(58) **Field of Classification Search**
None
See application file for complete search history.(56) **References Cited**

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Johnson(57) **ABSTRACT**A reaction product and hot melt adhesive compositions that
include the reaction product are disclosed. The reaction prod-
uct includes the reaction product of a first polymer that
includes at least one of polypropylene homopolymer and
polypropylene-alpha-olefin copolymer, a first wax that
includes at least one of polyethylene wax, Fischer Tropsch
wax and paraffin wax, and a free radical initiator and has a
viscosity of no greater than 12,000 centipoise at 177° C.**30 Claims, No Drawings**