



(12) **United States Patent**
van Heiningen et al.

(10) **Patent No.:** **US 8,475,627 B2**
(45) **Date of Patent:** ***Jul. 2, 2013**

(54) **PROCESS OF TREATING A LIGNOCELLULOSIC MATERIAL**
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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 0 days.
This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/108,239**

(22) Filed: **May 16, 2011**

(65) **Prior Publication Data**
US 2011/0214826 A1 Sep. 8, 2011

Related U.S. Application Data
(63) Continuation of application No. 12/649,614, filed on Dec. 30, 2009, now Pat. No. 7,943,009, which is a continuation of application No. 11/640,820, filed on Dec. 18, 2006, now Pat. No. 7,824,521.

(51) **Int. Cl.**
D21C 1/06 (2006.01)

(52) **U.S. Cl.**
USPC **162/43**; 162/9; 162/17; 162/41

(58) **Field of Classification Search**
USPC 162/9, 19, 41, 43, 90, 17
See application file for complete search history.

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(57) **ABSTRACT**

A process of treating a lignocellulosic material includes a pre-extraction step in which hemicellulose is extracted from the lignocellulosic material. In one embodiment, the pre-extraction step involves contacting the lignocellulosic material with an aqueous solution under conditions that release acidic material from the lignocellulosic material into the aqueous solution, and the aqueous solution includes a basic material that at least partly neutralizes the acidic material so that the aqueous solution at the end of the pre-extraction step has a pH within a range of from 4.5 to 11. The process also includes a pulping step, after the pre-extraction step, in which the lignocellulosic material is separated into pulp. The process further includes an adsorption step, after the pulping step, in which hemicellulose is adsorbed on the pulp.

14 Claims, 11 Drawing Sheets

