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(12) **United States Patent**
Belanger et al.

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(54) **RECOVERY OF LIGNIN AND WATER SOLUBLE SUGARS FROM PLANT MATERIALS**

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USPC **530/500**; 435/430; 530/502; 530/507

(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

In one aspect, a process for treating woody plant material is provided, the process involving contacting the plant material with a continuous flow of an aqueous ethanol solution at elevated temperature and pressure under conditions that promote extraction of ethanol-soluble lignin from the plant material and retention of hemicellulose sugars, xylose and cellulose in the treated plant material solids. In another aspect, a process for extracting hemicellulose sugars from lignin-depleted plant material solids is provided, the process involving contacting lignin-depleted plant material with water at elevated temperature and pressure under conditions that promote extraction of hemicellulose sugars from the plant material; and recovering hemicellulose sugars from the liquid mixture.

20 Claims, 11 Drawing Sheets