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(71) Applicant (for all designated States except US): **GREEN-FIELD ETHANOL INC.** [CA/CA]; 20 Toronto Street, Suite 1400, Toronto, Ontario M5C 2B8 (CA).

(72) Inventors; and

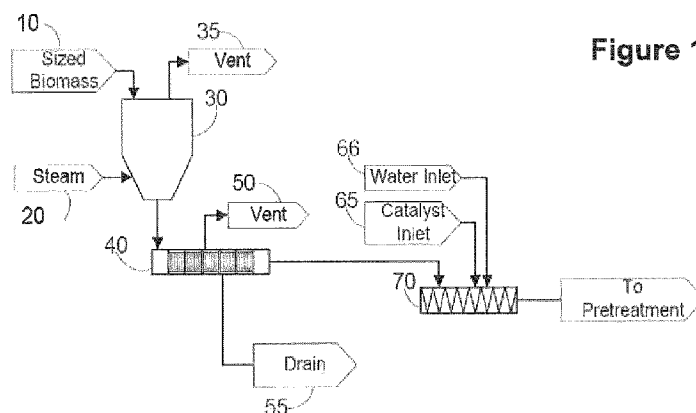
(75) Inventors/Applicants (for US only): **DOTTORI, Frank, A.** [CA/CA]; 70 Thorne Avenue, Box 1173, Temiscaming, Québec J0Z 3R0 (CA). **BENSON, Robert, Ashley, Cooper** [CA/CA]; 6 Merlin Avenue, North Bay, Ontario P1A 3Y1 (CA). **BENECH, Régis-Olivier** [CA/CA]; 7685 Riverview line, Chatham, Ontario N7M 5J5 (CA).(74) Agents: **FRITZ, Joachim T.** et al.; Borden Ladner Gervais LLP, World Exchange Plaza, 100 Queen Street, Suite 1100, Ottawa, Ontario K1P 1J9 (CA).

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(54) Title: **CONDITIONING OF BIOMASS FOR IMPROVED C5/C6 SUGAR RELEASE PRIOR TO FERMENTATION****Figure 1**

(57) **Abstract:** Disclosed is an improvement in a conventional process for C5 and C6 sugar recovery from lignocellulosic biomass for fermentation to ethanol, which process including the conventional steps of pretreatment of the biomass with steam at elevated temperature and pressure, collection of C5 sugars from hemicellulose breakdown, cellulose hydrolysis and collection of C6 sugars from cellulose breakdown. The improvement includes conditioning of the biomass prior to the pretreatment step by heating the biomass with steam for a time period between 5 minutes to 60 minutes to achieve a steam treated biomass having a temperature of about 80 to 100°C; and adjusting a moisture content of the steam treated biomass to about 45% to 80%. An increased recovery of C5 and C6 sugars is achieved compared to the conventional process

